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ABSTRACT

This manual for the Automated Instructional Management System - Version III includes source statement flowcharts for the system input control program and 12 system input subprograms, the operational input control program and 7 subprograms, and the output report generator and 19 subprograms. For related documents, see SE 016 059 through SE 016 064. (DT)

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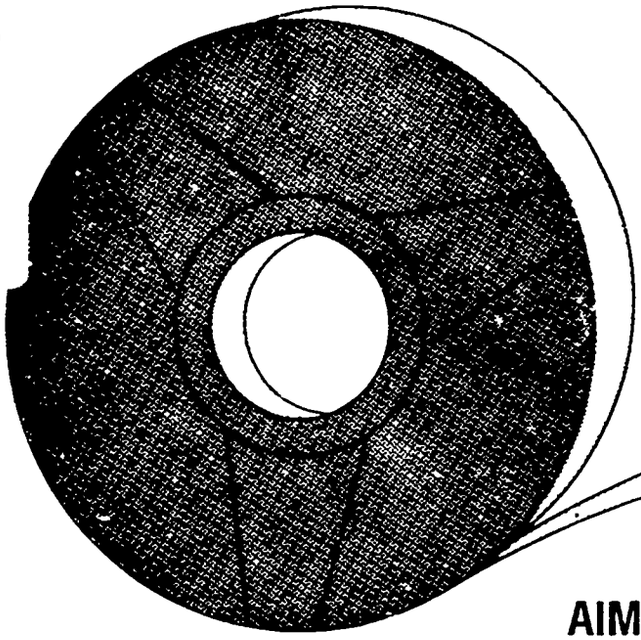
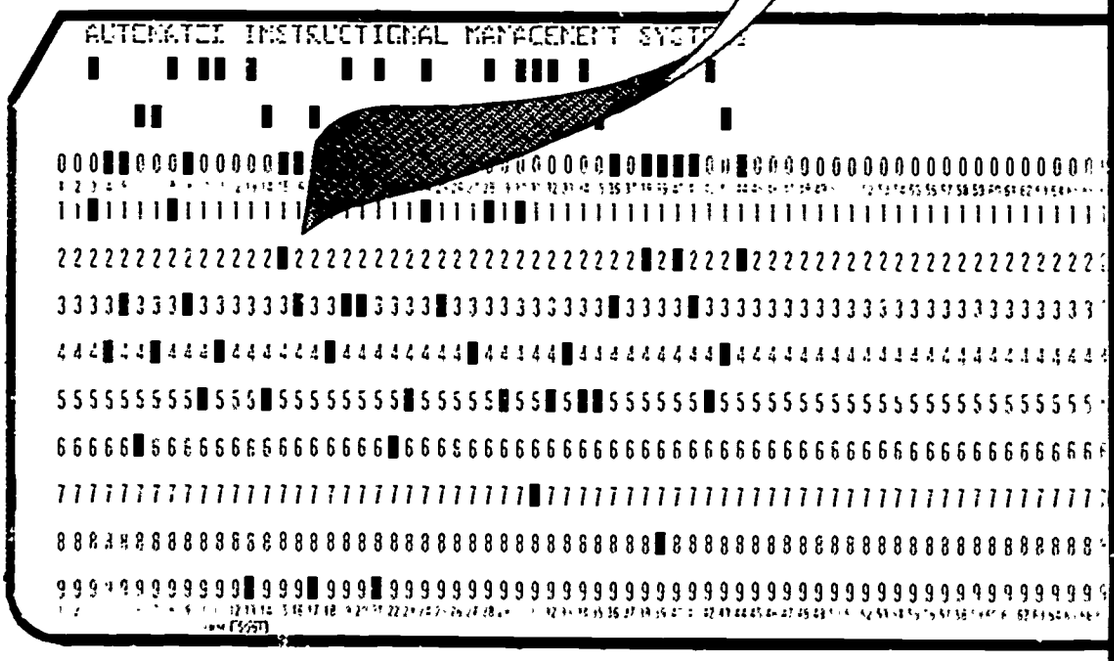


automated instructional management systems

AIMS VERSION III
PROGRAM LOGIC MANUAL
VOLUME I



NEW YORK INSTITUTE OF TECHNOLOGY
OLD WESTBURY, NEW YORK

AUTOMATED INSTRUCTIONAL MANAGEMENT SYSTEM

PROGRAM LOGIC MANUAL

SOURCE STATEMENT FLOWCHARTS

Prepared by the Staff of
The Advanced Systems Laboratory

Ernest N. O'Dierno, Director

FOREWORD

- The Automated Instructional Management System (AIMS) was designed to monitor, score, and evaluate individual students, groups of students, and curricular content in a course environment designated for educational management.

- The AIMS System was designed around IBM System/360, and Version III was generated with Model 30/Release 20 IBM Disk Operating System (DOS).

- All source statement flowcharts contained in this manual have been developed with U.S. Office of Education funds under Research Contract No. OEC-0-8-080157-3691(010).

ADVANCED SYSTEMS LABORATORY
New York Institute of Technology
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SECTION I

SYSTEM INPUT

CONTROL PROGRAM

```
                    I
          COMMON/SYSTEM/NLESS,NDECK,NPEX,NQUEST,NSTUD
             COMMON/FILES/IFIL(15)
             INTEGER DATES(6)
             INTEGER SEGMNT,CONTRO(14),PNAME(2)
             INTEGER * 2 COLUMN(40) ,IA   ,  IDENT
             EQUIVALENCE (COLUMN(1),IA),(CARD(1),IB),
             (CARD(2),IC),(CARD(3),ID),(CARD(4),IE)
             INTEGER CARD(4)
             DATA SEGMNT/0/,IDENT/'(('/,
             CONTRO/'HEAD','STUD','QUES','PROC','DECK','ODEL','NEXT','-I ','
             '-TO-','-LIS','INPU','DROP','RQST','LIST'/
             DATA PNAME/'MAIN','TOR'/
          DEFINE FILE 5(1500,33,U,I5),
                      6( 800,33,U,I6),
                      7( 200,100,U,I7),
                      8(4000,35,U,I8),
                      9( 250,23,U,I9),
                     10(8040,33,U,I10),
                     11( 500,23,U,I11),
                     12( 100,25,U,I12)
                    I
          ----------------------------------------
          I NLESS=40                              I
          I NDECK=10                              I
          I NPEX =2                               I
          I NQUEST =48                            I
          I NSTUD=185                             I
          ----------------------------------------
                    I
                    I
             +------------+
            + DO          +
 +++++++++      7          +
 +          + I = 1,15    +
 +           +------------+
 +                  I
 +                  I
 +        ----------------------------------------
7 ++++++++I IFIL(I) =I                            I
          I IN   =1                               I
          I IOUT =3                               I
          ----------------------------------------
                    I
100          CONTINUE
                    I
```

(CONTINUED ON PAGE 2)

```
                    I
101         FORMAT(40A2)

102         FORMAT(1H1,6X,'***  GIPS  ***'      66X,'JOB',3X,2A4,1X,'NO',1X,
            2A4/   1H0,5X,40A2)

    ***     READ(IA,101,END=9000) COLUMN
                    I
                    I
                 . * .
              . *   IF    * .
          *  (IA.NE.IDENT)    *
       1 * .                . * 1
       1      * .        . *     1
       1          * . *         1
    - 1           0 I          + I
   -------      -------      -------
   I GOTO100    I     I      I     I
   -------      -------      -------

            CALL INFO(DATES)

    ***     WRITE(IOUT,102) DATES,COLUMN

            CALL IMAGE(COLUMN,CARD)
                    I
                    I
                 . * .
              . *   IF    * .
          *(IB.NE.COMTBD(L))  *
       1 * .                . * 1
       1      * .        . *     1
       1          * . *         1
    - I           0 I          + I
   -------      -------      -------
   I GOTO1000   I     I      I     I
   -------      -------      -------

1000        CONTINUE
                    I
```

(CONTINUED ON PAGE 3)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *  (SEGMNT.EQ.L)    *
          I * .                . * I
          I     * .        . *     I
          I         * . *          I
        - I         0 I          + I
       -------     -------      -------
       I GOTO1500  I     I      I     I
       -------     -------      -------

            CALL  OPSYS('LOAD','AIFSHEAD')
                    I
          ----------------------------------------
          I SEGMNT =L                            I
          ----------------------------------------
                 .  I

500         CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
            *(IC.NE.CONTROL(5))  *
          I * .                . * I
          I     * .        . *     I
          I         * . *          I
        - I         0 I          + I
       -------     -------      -------
       I GOTO1700  I     I      I     I
       -------     -------      -------

            CALL HEADER
                    I
                 -------
                 I 100 I
                 -------


1700        CONTINUE
                    I
```

(CONTINUED ON PAGE 4)

```
                          I
                          I
                          I
                     . *     * .
                  . *     IF      * .
                *((IC.GT.CONTRO(6))   *
              I * .                . * I
              I     * .         . *    I
              I        * . *           I
            - I          0 I         + I
          -------     -------     -------
          I GOTO1000  I     I     I     I
          -------     -------     -------


                  CALL STORE
                       I
                    -------
                    I 100 I
                    -------



 1000             CONTINUE
                       I
                       I
                   . *    * .
                . *     IF     * .
              *((IC.NE.CONTRO(7))   *
             I * .               . * I
             I     * .        . *    I
             I        * . *          I
           - I          0 I        + I
          -------     -------     -------
          I GOTO1000  I     I     I     I
          -------     -------     -------


                  CALL ADLIST
                       I
                    -------
                    I 100 I
                    -------



 2000             CONTINUE
                       I
          (CONTINUED ON PAGE    5)
```

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(I3.NE.CONTRO(2))   *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
      -------      -------      -------
      I GOTO1000   I     I      I     I
      -------      -------      -------
```

```
                    I
                    I
                 . *   * .
              . *    IF     * .
           *  (SEGMNT.EQ.2)     *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
      -------      -------      -------
      I GOTO1500   I     I      I     I
      -------      -------      -------
```

```
          CALL OPSYS('LOAD','AIMSCLAS')
                    I
       ----------------------------------------
       I SEGMNT =2                            I
       ----------------------------------------
                    I
500       CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(IC.NE.CONTRO(13)) *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
      -------      -------      -------
      I GOTO1700   I     I      I     I
      -------      -------      -------

          CALL LIST
                    I
```

(CONTINUED ON PAGE 5)

```
                    I
                    I
                 -------
                 I 100 I
                 -------

700         CONTINUE
                    I
                    I
              . *   * .
          . *     IF      * .
       *    (ID.EQ.0)        *
    I * .                  . * I
    I     * .          . *     I
    I         * . *            I
  - I         C I            + I
-------     -------        -------
I ID=1I     I     I        I     I
-------     -------        -------

                    I
                    I
              . *   * .
          . *     IF      * .
       *(ID.EQ.1.OR.ID.EQ.13)
    I * .                  . * I
    I     * .          . *     I
    I         * . *            I
  - I         C I            + I
-------     -------        -------
I GOTCISCU  I     I        I     I
-------     -------        -------

          CALL ERROR(PNAME,0,2,ID)
                    I
                 -------
                 I 100 I
                 -------

800         CONTINUE
                    I
```

(CONTINUED ON PAGE 7)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(IC.NE.CONTRO(11)) *
        I * .                 . * I
        I      * .        . *     I
        I          * . *          I
     - I           0 I           + I
     -------      -------      -------
     I GOTO1900   I     I      I     I
     -------      -------      -------

              CALL INPUT(ID)
                    I
                 -------
                 I IOK I
                 -------


900           CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(IC.NE.CONTRO(12)) *
        I * .                 . * I
        I      * .        . *     I
        I          * . *          I
     - I           0 I           + I
     -------      -------      -------
     I GOTO1030   I     I      I     I
     -------      -------      -------

              CALL DROP(ID)
                    I
                 -------
                 I ICO I
                 -------


900           CONTINUE
                    I
```

(CONTINUED ON PAGE 8)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(IP.NE.CONTRO(3))  *
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
     - I          0 I            + I
     -------      -------        -------
     I GOTO1000   I     I        I     I
     -------      -------        -------

                    I
                    I
                 . *   * .
              . *    IF     * .
           *  (SEGMNT.EQ.3)     *
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
     - I          0 I            + I
     -------      -------        -------
     I GOTO1500   I     I        I     I
     -------      -------        -------

              CALL GPSYS('LOAD','AIRSOLST')

500           CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(IC.NE.CONTRO(6))  *
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
     - I          0 I            + I
     -------      -------        -------
     I GOTO1700   I     I        I     I
     -------      -------        -------

                    I
```

(CONTINUED ON PAGE 9)

```
                    I
                    I
                    I
                 . * * .
              . *   IF   * .
            .     (ID.EQ.0)       *
         I * .                 . * I
         I     * .         . *     I
         I         * . *           I
       - I         0 I           + I
      -------     -------       -------
      I ID=1I     I     I       I     I
      -------     -------       -------

                    I
                    I
                 . * * .
              . *   IF   * .
           *(ID.EQ.1.OR.ID.EQ.13)
         I * .                 . * I
         I     * .         . *     I
         I         * . *           I
       - I         0 I           + I
      -------     -------       -------
      I GOTO1600  I     I       I     I
      -------     -------       -------

              CALL ERROR(PNAME,0,2,ID)
                    I
                 -------
                 I 100 I
                 -------


 3600         CALL MPOI(IP,IF)
                    I
                 -------
                 I 100 I
                 -------


 1700         CONTINUE
                    I
      (CONTINUED ON PAGE  10)
```

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(IC.NE.CONTRO(9))  *
        I * .                 . * I
        I      * .        . *     I
        I          * . *          I
     - I           0 I           + I
   -------       -------       -------
   I GOTO1900    I     I       I     I
   -------       -------       -------

            CALL MBOLST
                  I
               -------
               I 100 I
               -------


1900        CONTINUE
                  I
                  I
                 . *   * .
              . *    IF     * .
           *(IC.NE.CONTRO(10)) *
        I * .                 . * I
        I      * .        . *     I
        I          * . *          I
     - I           0 I           + I
   -------       -------       -------
   I GOTO1000    I     I       I     I
   -------       -------       -------

            CALL QLIST
                  I
               -------
               I 100 I
               -------


2000        CONTINUE
                  I
```

(CONTINUED ON PAGE 11)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(IF.NE.CONTRO(4))   *
        I * .                 . * I
        I      * .        . *     I
        I          * . *          I
     - I           0 I           + I
   -------       -------       -------
   I GOTO1000    I     I       I     I
   -------       -------       -------

            CALL OPSYS('LOAD','ALMSPECL')
                    I
          ----------------------------------------
          I SEGMNT =4                            I
          ----------------------------------------
                    I

            CALL PROCES(ID)
                    I
                 -------
                 I 100 I
                 -------


000         CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(IB.NE.CONTRO(14)) *
        I * .                 . * I
        I      * .        . *     I
        I          * . *          I
     - I           0 I           + I
   -------       -------       -------
   I GOTO1000    I     I       I     I
   -------       -------       -------

                    I
```

(CONTINUED ON PAGE 12)

```
                    I
                    I
                    I
                 . *   * .
              . *   IF     * .
            *  (SEGMNT.EQ.5)    *
          I * .                . * I
          I      * .        . *     I
          I          * . *          I
        - I          3 I          + I
       -------      -------      -------
       I GOTO 1300  I     I      I     I
       -------      -------      -------

                    I
            ----------------------------------------
            I SEGMNT =5                            I
            ----------------------------------------
                    I

              CALL OPSYS('LOAD','ATMSLIST')

300           CONTINUE

              CALL RLIST(10)
                    I
                 -------
                 I 100 I
                 -------


900           CONTINUE

              CALL ERROR(PNAME,0,1)
                    I
                 -------
                 I 100 I
                 -------


1000          CONTINUE

              CALL FINISH

              CALL EXIT

              END
IF=2191

TRACEBACK FOLLOWS-   ROUTINE    TSN    REG. 14    REG. 15    REG.  0    REG.  1
                     IBCOM             9200302C   00005E58   00000001   00000030
                     MAINPG
ENTRY POINT- 00001FF8
```

SECTION II

SYSTEM INPUT SUBPROGRAMS

**** PROGRAM LOGIC MANUAL **** A.I.C.S. VERSION III ****

```
      SUBROUTINE HEADER

      COMMON/SYSTEM/NLESS,NDECK,NREX,NQUEST,NSTUD

      COMMON/FILES/IN1(2),IPRINT,IN2(2),IFILE,IN3,IOPRINT,IN4(3),IPUNCH,
         IN5,ITAPE,IN6

      INTEGER CARD

      INTEGER * 2  RECORD(65,LEN) ,  RECORD2(35) , PTRS(50) , NOS(50)

      INTEGER * 2  LPERM,NPERM,LTEMP, NTEMP, EPSFLG

      INTEGER * 2  SSTMAP(4,400) , DELST(3) , ADDP , ADDL , CHECK
         , TRECD(4) , QRECNO ,   QSTION(70)

      INTEGER RNAME(2) , CFLAG , RECD , BCD  , SNAME(2)

      DATA RNAME/'HEAD','ER'/, DELET/'DE','LE','T '/,DROP/'/', ADD /'/'

      DATA   QSTION/40*0,30*' '/   ,SNAME/'STOR','E'/

      INTEGER * 2 NUMBER(2), LESSON, SEGMNT, TYPE , COURSE , SEQNCE ,
         SORD , SELECT , GRADES , QUESTS , RESPNS(48) , LABEL(2), BLANK(2)
         ,QPTR

      INTEGER  HEADNG(4,2) , ANSWER(2,48) , BLANK , KCD , ISTART(2)  ,
        DATE(6) , DROPPD(2,2), COND(2)

      INTEGER * 2 QREX(70)

      DATA   HEADNG/'PERM','ANEN','T FI','LE','TEMP','ORAR','Y FI','LE'/

      DATA  BLANK/'    '/ , ISTART/1,401/,LABEL/'.','S.'/,BLANK/' ',' '/
      /, DROPPD/' ',' ','DELE','TED' / ,COND/'A-OK','STOP'/

      EQUIVALENCE  (LESSON ,  RCORD2(1) )  ,  (SEGMNT ,  RCORD2(2) )
       ,  ( TYPE ,  RCORD2(4) )  , ( COURSE ,  RCORD2(5) )
       ,  (SEQNCE ,  RCORD2(6) ) , (SORD,  RCORD2(10) )
       ,  (SELECT ,  RCORD2(11) ) , (GRADES,  RCORD2(12) )
       ,  (QUESTS ,  RCORD2(13) ) , ( RESPNS(1) ,  RCORD2(19)  )
       ,  (QPTR  ,   RCORD2(8) )

***   REWIND ITAPE

***   READ(ISYS'2) LPERM, NPERM, LTEMP, NTEMP

***   READ(ISYS'3) PTRS

***   READ(ISYS'4) NOS
```

```
      ----------------------------------------
      ( EFLAG                                 )
      ----------------------------------------
```

(CONTINUED ON PAGE 2)


```
                I
        NRW=0
                I
        ----------------------------------------
        I NCHECK =NTEMP                        I
        ----------------------------------------
                I
                I
        CALL CTTU(RECORD,NUM2,LCT)
                I
                I
            . *   * .
        . *    IF     * .
      *   (NUM2.LT.1)      *
    I * .                . * I
    I     * .        . *     I
    I          * . *         I
  - I          0 I          + I
 -------      -------      -------
 I GOTO1100   I     I      I     I
 -------      -------      -------


        DO 2000 CARD = 1,NRW
                I
                I
            . *   * .
        . *    IF     * .
      *(RECORD(1,CARD).GT.LPERM)
    I * .                . * I
    I     * .        . *     I
    I          * . *         I
  - I          0 I          + I
 -------      -------      -------
 I GOTO100    I     I      I     I
 -------      -------      -------

                I
        ----------------------------------------
        I LESS =RECORD(1,CARD)                 I
        I I1   =PTRS(LESS)                     I
        I I2   =NOS(LESS)+I1-1                 I
        ----------------------------------------
                I
                I
          +------------+
         + DO          +
++++++++++   400        +
+        + NR = I1 , I2 +
+         +------------+
+               I
+
+    ***   READ(IFILE'NR)  RCORD2
+               I
```

(CONTINUED ON PAGE 3)

```
+
+                    I
+                    I
+             +-------------+
+           + DO            +
++++++++++    300           +
+           + J = 3,4       +
+             +-------------+
+                    I
+                    I
+                    I
+               . *   * .
+           . *     IF      * .
+       *(RCORD2(J).NE.RECORD(J,CARD))
+     1 * .                  . * 1
+     1       * .        . *      1
+     1           * . *           I
+   - I           0 I           + I
+ -------       -------       -------
+ I GOTO100     I     I       I     I
+ -------       -------       -------
+
+
300 ++++++++    CONTINUE
+                    I
+                    I
+               . *   * .
+           . *     IF      * .
+       *(RCORD2(5).NE.RECORD(5,CARD))
+     1 * .                  . * 1
+     1       * .        . *      1
+     1           * . *           I
+   - I           0 I           + I
+ -------       -------       -------
+ I GOTO150     I     I       I     I
+ -------       -------       -------
+
+                    I
+                    I
+               . *   * .
+           . *     IF      * .
+       *(RCORD2(6).NE.RECORD(6,CARD))
+     1 * .                  . * 1
+     1       * .        . *      1
+     1           * . *           I
+   - I           0 I           + I
+ -------       -------       -------
+ I GOTO150     I     I       I     I
+ -------       -------       -------
+
+                    I
```

(CONTINUED ON PAGE 4)

```
+
+                  I
+                  I
+                  I
+            . *   * .
+         . *    IF     * .
+      *(RECORD2(16).NE.RECORD(16,CARD))
+    1 * .                  . * 1
+    1      * .        . *      1
+    1          * . *           I
+  - I          0 I           + I
+ -------      -------       -------
+ I GOTO150    I     I       I     I
+ -------      -------       -------
+
+                  I
+                  I
+            . *   * .
+         . *    IF     * .
+      *(RECORD2(13).NE.RECORD(13,CARD))
+    1 * .                  . * 1
+    1      * .        . *      1
+    1          * . *           I
+  - I          0 I           + I
+ -------      -------       -------
+ I GOTO150    I     I       I     I
+ -------      -------       -------
+
+
+    ***    RECORD2(11) = RECORD(11,CARD)
+
+    ***    RECORD2(12) = RECORD(12,CARD)
+                  I
+       ----------------------------------------
+       I J2   =QUESTS+17                      I
+       ----------------------------------------
+                  I
+                  I
+          +------------+
+         + DO          +
++++++++++   325         +
+         + J = 18,J2 .  +
+          +------------+
+                  I
+                  I
+       ----------------------------------------
+       I J3   =J-18+QPTR                      I
+       ----------------------------------------
+                  I
+
+    ***   READ (IQUEST'J3) QREX
+                  I
+       ----------------------------------------
+       I RCORD2(J) =RECORD(J,CARD)            I
+       I QREX(12) =RECORD2(J)                 I
+       ----------------------------------------
+                  I
+                  I
```

(CONTINUED ON PAGE 5)

```
+
+                    I
+
++++++++   WRITE(IQUEST(3) 2PEX
+
+     ***   WRITE(IFILE,NR)  RCORD2
+                    I
+                 -------
+                 I 2000I
+                 -------
+
+
+
+                    I
+          ----------------------------------------
350       I J     =RCORD2(3)                      I
+         I K     =RCORD2(4)                      I
+          ----------------------------------------
+                    I
+
+            CALL ERROR(RNAME,0,1,MS,LESS,J,K)
+                    I
+                 -------
+                 I 2000I
+                 -------
+
+
+
+
+
400 ++++++++   CONTINUE
                    I
           ----------------------------------------
           I J     =RECORD(3,CARD)                 I
           I K     =RECORD(4,CARD)                 I
           ----------------------------------------
                    I

            CALL ERROR(RNAME,0,2,LESS,J,K)
                    I
                 -------
                 I 2000I
                 -------

500         CONTINUE
                    I
            +-----------+
           + DO         +
++++++++++   550         +
+ '        + I =  1,3   +
+           +-----------+
+                   I
+                   I
```

(CONTINUED ON PAGE 6)

```
*** [illegible]
+
+                I
+                I
+                I
+            . *   * .
+        . *    IF     * .
+      *(RECORD(I+6,CASE).NE.TLST(I))
+    I * .                . * I
+    I     * .        . *     I
+    I          * . *         I
+  - I          0 I          + I
+ -------      -------      -------
+ I,GOTOI000   I     I      I     I
+ -------      -------      -------
+
+
550 ++++++++   CONTINUE
                 I
          ----------------------------------------
          I LESS =RECORD(I,CAN)                  I
          I I1   =PTRS(LESS)                     I
          I I2   =NDS(LESS)+I1-1                 I
          ----------------------------------------
                 I
                 I
                 I
             . *   * .
         . *    IF     * .
       *(I1.LT.401.OR.I2.LT.I1)
     I * .                . * I
     I     * .        . *     I
     I          * . *         I
   - I          0 I          + I
  -------      -------      -------
  I GOTOI00    I     I      I     I
  -------      -------      -------

                 I
            +------------+
500         + DO         +
++++++++++   800          +
+           + NP = I1 , I2 +
            +------------+
+                I
+
+    ***   READ(IFILE'NR)  RCORD2
+                I
+           +------------+
+           + DO         +
++++++++++   700          +
+           +  I = 3,4   +
            +------------+
+                I
+                I
```

(CONTINUED ON PAGE 7)

```
+
+                I
+                I
+                I
+            . *   * .
+        . *     IF     * .
+     *(RCORD2(I).NE.RECORD(I,CARD))
+   I * .                 . * I
+   I     * .         . *     I
+   I         * . *           I
+ - I         0 I           + I
+ -------     -------     -------
+ I GOTO100   I     I     I     I
+ -------     -------     -------
+
+
700 ++++++++   CONTINUE
+                I
+       ----------------------------------------
+       I DROP =1                              I
+       ----------------------------------------
+                I
+
+    ***   WRITE(IFILE'NR)  RCORD2,DROP
+                I
+       ----------------------------------------
+       I NCHECK =NCHECK-1                     I
+       ----------------------------------------
+                I
+                I
+             -------
+             I 2000I
+             -------
+
+
+
+
800 ++++++++   CONTINUE
                 I
           ----------------------------------------
900        I I     =RECORD(3,CARD)                I
           I J     =RECORD(4,CARD)                I
           I EFLAG=1                              I
           ----------------------------------------
                 I

              CALL ERROR(RNAME,0,3,LESS,J,K)
                 I
             -------
             I 2000I
             -------


900           CONTINUE
                 I
```

(CONTINUED ON PAGE 8)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF    * .
           *(RECORD(1?,CARD).NE.1)
        1 * .                 . * 1
        1     * .         . *     1
        1         * . *           1
     - 1          0 I          + 1
   -------      -------      -------
   I GOTO1100   I     I      I     I
   -------      -------      -------

                    I
            ----------------------------------------
            I LESS =RECORD(1,CARD)                  I
            I I    =RECORD(3,CARD)                  I
            I J    =RECORD(4,CARD)                  I
            I FFLAG=1                               I
            ----------------------------------------
                    I

               CALL ERROR(RNAME,0,4,LESS,I,J)
                    I
                 -------
                 I 20001
                 -------


                    I
            ----------------------------------------
1100        I LESS =RECORD(1,CARD)                  I
            I I1   =PTRS(LESS)                      I
            I I2   =NOS(LESS)+I1-1                  I
            ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF    * .
           *(I1.LT.401.OR.I2.LT.I1)
        1 * .                 . * 1
        1     * .         . *     1
        1         * . *           1
     - 1          0 I          + 1
   -------      -------      -------
   I GOTO1500   I     I      I     I
   -------      -------      -------


               DO 1200 NR = I1 , I2

      ***      READ(IFILE'NR)  RCORD2
                    I
```

(CONTINUED ON PAGE 9)

```
                        I
                        I
                 +------------+
                + 1,3          +
      +++++++++  1150          +
      +         + I = 3,4      +
      +          +------------+
      +                I
      +                I
      +                I
      +             . *   * .
      +          . *    IF     * .
      +       *( GOTO2(I).NE.RECORD(I,CARD))
      +     1 * .                . * 1
      +     I      * .        . *     I
      +     I          * . *          I
      +  - I          0 I          + I
      + -------      -------      -------
      + I GOTO1200   I     I      I     I
      + -------      -------      -------
      +
      +
  150 ++++++++   CONTINUE

          ***    WRITE(IFILE'NR) (RECORD(I,CARD),I=1,65),'END'
                        I
                    -------
                    I 2000I
                    -------


  200               CONTINUE

 1500               CONTINUE
                        I
              ----------------------------------------
              I I     =NEW+NCHECK+NPERM                I
              ----------------------------------------
                        I
                        I
                        I
                     . *   * .
                  . *    IF     * .
                *    (I.LT.400)      *
            1 * .                . * I
            1      * .        . *     I
            1          * . *          I
          - I          0 I          + I
         -------      -------      -------
         I GOTO1600   I     I      I     I
         -------      -------      -------

                        I
              ----------------------------------------
              I I     =RECORD(3,CARD)                  I
              ----------------------------------------
                        I
```

```
                I
        J=RTCURD(4,CARD)
                I
        ----------------------------------------
        I FFLAG=1                              I
        ----------------------------------------
                I
           CALL ERSOR(FNAME,0,5,LFSS,I,J)
                I
              -------
              I 20001
              -------


 1500      CONTINUE
                I
        ----------------------------------------
        I NEW  =NFR+1                          I
        ----------------------------------------
                I

           SRTMAP(1,NEW) = RECORD(1,CARD)

           SRTMAP(2,NEW) = RECORD(3,CARD)

           SRTMAP(3,NEW) = RECORD(4,CARD)

           SRTMAP(4,NEW) = 0

      ***  WRITE(ITAPE) (RECORD(I,CARD),I = 1,65)

 2000      CONTINUE
                I
                I
              . *   * .
          . *    IF     * .
        *   (LCI.EQ.0)       *
      I * .                . * I
      I     * .        . *     I
      I         * . *         I
    - I         0 I         + I
   -------     -------     -------
   I GOTO100   I     I     I     I
   -------     -------     -------

                I
```

(CONTINUED ON PAGE 11)

```
                    I
                    I
                    I
100               . *   * .
            . *     IF      * .
        *  (NTEMP.LE.0)       *
      I * .                  . * I
      I     * .          . *     I
      I         * . *            I
    - I         0 I            + I
  -------      -------        -------
  I GOTO1300   I     I        I     I
  -------      -------        -------

                    I
          ----------------------------------------
          I I1    =401                            I
          I I2    =NTEMP+I1-1                     I
          ----------------------------------------
                    I
                    I
             +------------+
            + DO           +
++++++++++  2200            +
+          + I = I1 , I2   +
+           +------------+
+                   I
+
+     ***   READ(IFILE'I)  RCORD2,CHECK
+                   I
+                   I
+               . *   * .
+          . *     IF      * .
+        *  (CHECK.NE.0)       *
+      I * .                  . * I
+      I     * .          . *     I
+      I         * . *            I
+    - I         0 I            + I
+  -------      -------        -------
+ I GOTO1200    I     I        I     I
+  -------      -------        -------
+
+                   I
+         ----------------------------------------
+         I NEW   =NEW+1                          I
+         ----------------------------------------
+                   I
+
+            SRTMAP(1,NEW) =  RCORD2(1)
+
+           SRTMAP(2,NEW) =  RCORD2(3)
+
+           SRTMAP(3,NEW) =  RCORD2(4)
+
+           SRTMAP(4,NEW) = 0
+                   I
```

(CONTINUED ON PAGE 12)

```
+
+
+
+     ***   WRITE(ITAPE) RCORD2,CHECK
+
200 ++++++++   CONTINUE
                    I
                    I
300                 . *   * .
              . *     IF      * .
            *   (NCW.LE.0)        *
        I * .                   . * I
        I     * .           . *     I
        I           * . *           I
      - I           0 I           + I
     -------      -------       -------
     I GOTOI200   I     I       I     I
     -------      -------       -------


              END FILE ITAPE

        ***   REWIND ITAPE

              DO 3000 IPOS = 1, NEW
                    I
              +------------+
            + DO            +
++++++++++  2400            +
+         + I = 1, NEW    +
+           +------------+
+                 I
+                 I
+                 I
+             . *   * .
+         . *     IF      * .
+       *(SRTMAP(4,I).NE.0) *
+     I * .                 . * I
+     I     * .           . *     I
+     I           * . *           I
+   - I           0 I           + I
+ -------      -------       -------
+ I GOTOI400   I     I       I     I
+ -------      -------       -------
+
+                 I
+        ----------------------------------------
+        I IWH  =I                               I
+        ----------------------------------------
+                 I
+                 I
```

(CONTINUED ON PAGE 13)

```
      +
      +                I
      +                I
      +            -------
      +            I 2500I
      +            -------
      +
      +
      +
      +
 400  ++++++++   CONTINUE
                       I
                  -------
                  I 3100I
                  -------


 500            CONTINUE
                       I
                       I
                  . *   * .
              . *    IF     * .
           *  (IAA.NE.NEW)      *
        L * .                 . * L
        I      * .        . *     I
        L           * . *         I
     - I            0 I          + I
    -------        -------      -------
    I SUTCI600     I     I      I     I
    -------        -------      -------


                SRTMAP(4,IWH) = IPOS
                       I
                  -------
                  I 3100I
                  -------


 600            CONTINUE
                       I
             ----------------------------------------
             I J     =IWH+1                         I
             ----------------------------------------
                       I
                       I
                  +------------+
               + DO            +
     +++++++++  2900            +
     +         + I = J,NEW      +
     +          +------------+
     +                I
     +                I
```

(CONTINUED ON PAGE 14)

```
+
+                    I
+                    I
+                    I
+                . *   * .
+            . *    IF    * .
+        *(SRTMAP(4,I).NE.0) *
+      I * .                 . * I
+      I     * .         . *     I
+      I           * . *         I
+   - I           0 I          + I
+ -------       -------      -------
+ I GOTO(900)  I      I      I      I
+ -------       -------      -------
+
+                    I
+                    I
+                . *   * .
+            . *    IF     * .
+        *(SRTMAP(1,IWH)-SRTMAP(1,I))
+      I * .                 . * I
+      I     * .         . *     I
+      I           * . *         I
+   - I           0 I          + I
+ -------       -------      -------
+ I 2900I       I 2700I      I 2850I
+ -------       -------      -------
+
+                    I
+                    I
700 +                . *   * .
+            . *    IF     * .
+        *(SRTMAP(2,IWH)-SRTMAP(2,I))
+      I * .                 . * I
+      I     * .         . *     I
+      I           * . *         I
+   - I           0 I          + I
+ -------       -------      -------
+ I 2900I       I 2750I      I 2850I
+ -------       -------      -------
+
+                    I
+                    I
750 +                . *   * .
+            . *    IF     * .
+        *(SRTMAP(3,IWH)-SRTMAP(3,I))
+      I * .                 . * I
+      I     * .         . *     I
+      I           * . *         I
+   - I           0 I          + I
+ -------       -------      -------
+ I 2900I       I 2900I      I 2850I
+ -------       -------      -------
+
+                    I
```

(CONTINUED ON PAGE 15)

```
     +
     +                I
     +
 250 +          CONTINUE
     +                I
     +       ----------------------------------------
     +       I IPP   =I                              I
     +       ----------------------------------------
     +                I
     +
 900 ++++++++   CONTINUE

                SRTMAP(4,INP) = IPOS

 300            CONTINUE

 100            CONTINUE

          ***   REWIND ITAPE
                     I
                +------------+
              + DO            +
     ++++++++++  3200          +
     +        + I = 1   , NLW +
     +         +------------+
     +                I
     +                I
     +       ----------------------------------------
     +       I J     =SRTMAP(4,I)+400                I
     +       ----------------------------------------
     +                I
     +
     +    ***   READ(ITAPE)  RCORD2
     +
 200 +++++++    WRITE(IFILE'J)  RCORD2 , ZERO
                     I
             ----------------------------------------
 300         I LAST =LPERM                           I
             I KOUNT=0                               I
             I II   =LAST+1                          I
             ----------------------------------------
                     I
                     I
                +------------+
              + DO            +
     ++++++++++  3350          +
     +        + I = II , NLESS
     +         +------------+
     +                I
     +                I
     +       ----------------------------------------
     +       I PIRS(I) =0                            I
     +       ----------------------------------------
     +                I
     +       ----------------------------------------
 350 ++++++++I NOS(I) =0                             I
             I I2    =401+NEW-1                      I
             ----------------------------------------
                     I
```

```
                    I
                    I
                +-----------+
               + DO         +
+++++++++  4000             +
+          + I = 401, 12    +
+           +-----------+
+                   I
+
+     ***   READ(IFILE'I) IRECD
+                   I
+                   I
+              . *   * .
+          . *    IF     * .
+       *  (KOUNT.EQ.0)      *
+     1 * .                 . * 1
+     1      * .        . *     1
+     1          * . *          1
+  - I           0 I           + I
+ -------       -------       -------
+ I GOTO1800    I     I       I     I
+ -------       -------       -------
+
+                   I
+                   I
+              . *   * .
+          . *    IF     * .
+       * (IRECD(1)-LAST)    *
+     1 * .                 . * 1
+     1      * .        . *     1
+     1          * . *          1
+  - I           0 I           + I
+ -------       -------       -------
+ I 34001       I 3500I       I 3700I
+ -------       -------       -------
+
+
3400 +            CONTINUE
+                   I
+        ----------------------------------------
+        I J     =IRECD(1)                      I
+        ----------------------------------------
+                   I
+
+            CALL ERROR(RNAME,0,-1,I,LAST,J)
+                   I
+               -------
+               I 3950I
+               -------
+
+
+
+                   I
+        ----------------------------------------
 500 +  I KOUNT=KOUNT+1                         I
+        ----------------------------------------
+                   I
+                   I
```

(CONTINUED ON PAGE 17)

```
+
+                I
+                I
+                I
+            . *   * .
+        . *    IF     * .
+      *(IRFCD(3).NE.LAST3)*
+    I * .                . * I
+    I     * .        . *     I
+    I         * . *          I
+  - I         0 I          + I
+ -------     -------      -------
+ I GOTO1600  I     I      I     I
+ -------     -------      -------
+
+                I
+                I
+            . *   * .
+        . *    IF     * .
+      *(IRFCD(4).NE.LAST4)*
+    I * .                . * I
+    I     * .        . *     I
+    I         * . *          I
+  - I         0 I          + I
+ -------     -------      -------
+ I GOTO1600  I     I      I     I
+ -------     -------      -------
+
+                I
+       ----------------------------------------
+       I EFLAG=1                               I
+       I J    =I-400                           I
+       ----------------------------------------
+                I
+
+          CALL ERROR(RNAME,0,6,J,LAST,LAST3,LAST4)
+
+          CONTINUE
+                I
+                I
+            . *   * .
+        . *    IF     * .
+      *(KOUNT.LE.NDECK)    *
+    I * .                . * I
+    I     * .        . *     I
+    I         * . *          I
+  - I         0 I          + I
+ -------     -------      -------
+ I GOTO1950  I     I      I     I
+ -------     -------      -------
+
+                I
+       ----------------------------------------
+       I EFLAG=1                               I
+       ----------------------------------------
+                I
+                I
```

500

(CONTINUED ON PAGE 18)

```
***  P U L S A R  L O G I C  M A N U A L  ***  [illegible]  ***

+
+                I
+
+          CALL [illegible](RNAME,6,5,7,LAST,LAST3,LAST4,[illegible])
+                I
+             -------
+             I 99501
+             -------
+
+
+
+
700 +          CONTINUE
+                I
+        ----------------------------------------
+        I [illegible](LAST) =KOUNT                        I
+        ----------------------------------------
+                I
+
800 +          CONTINUE
+                I
+        ----------------------------------------
+        I LAST =LAST+1                            I
+        ----------------------------------------
+                I
+                I
+                I
+             . *   * .
+          . *    IF     * .
+       *(LAST.EQ.IPECD(1)) *
+     I * .                 . * I
+     I     * .         . *     I
+     I          * . *          I
+   - I          0 I          + I
+ -------      -------      -------
+ I CPTQI990   I     I      I     I
+ -------      -------      -------
+
+                I
+        ----------------------------------------
+        I J     =IRECD(1)                         I
+        I K     =I-400                            I
+        I EFLAG=1                                 I
+        ----------------------------------------
+                I
+
+          CALL ERROR(RNAME,0,8,K,LAST,J)
+                I
+        ----------------------------------------
+        I LAST =IRECD(1)                          I
+        ----------------------------------------
+                I
+
900 +          CONTINUE
+
+     ***   PTRS(LAST) = 1
+                I
+        ----------------------------------------
+        I KOUNT=1                                 I
+        ----------------------------------------
+                I
```

```
+
+                    I
+        LAST3=IRECD(3)
+                    I
+        ----------------------------------------
+        I LAST4=IRECD(4)                        I
+        ----------------------------------------
+                    I
+
+++++++++   CONTINUE
                     I
         ----------------------------------------
         I NOS(LAST) =KOUNT                      I
         I LTEMP=LAST                            I
         I NTEMP=NEW                             I
         ----------------------------------------
                     I
                     I
                  -------
                  I 4400I
                  -------


200         CONTINUE
                     I
         ----------------------------------------
         I LTEMP=0                               I
         I NTEMP=0                               I
         ----------------------------------------
                     I
                     I
                     I
                 . *   * .
             . *    IF     * .
           *(LPERM.EQ.NLESS)    *
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
      - I         0 I           + I
     -------     -------       -------
     I GOTO1400  I     I       I     I
     -------     -------       -------

                     I
         ----------------------------------------
         I I1   =LPERM+1                         I
         ----------------------------------------
                     I
                     I
              +------------+
             + DO          +
++++++++++  4300            +
+            + I = I1 , NLESS
             +------------+
+                    I
+                    I
+        ----------------------------------------
+        I NOS(I) =0                             I
```

(CONTINUED ON PAGE 29)

```
+
+                    I
1000 ++++++++PTRS(I)=0

1000            CONTINUE
                     I
           ----------------------------------------
           I ERRFLG =EFLAG                        I
           ----------------------------------------
                     I

      ***   WRITE(ISYS'2) LPERM, NPERM, LTERP, NTERP, ERRFLG

      ***   WRITE(ISYS'3) PTRS

      ***   WRITE(ISYS'4) VOS

 500        CONTINUE
                     I
                  -------
                  I 6800I
                  -------


            ENTRY STORE

      ***   READ(ISYS'2) LPERM, NPERM, LTERP, NTERP, ERRFLG
                     I
                     I
                 . *   * .
             . *    IF     * .
          *  (ERRFLG.EQ.0)     *
        I * .                . * I
        I     * .        . *     I
        I         * . *          I
     - I          0 I          + I
     -------      -------      -------
     I GOTO1000   I     I      I     I
     -------      -------      -------


            CALL ERROR(SNAME,0,1)
                     I
                  -------
                  I 6800I
                  -------


                     I
```

(CONTINUED ON PAGE 21)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *  (NTEMP.LE.0)      *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
     - I           0 I          + I
   -------       -------      -------
   I GOTO1100    I     I      I     I
   -------       -------      -------


      ***   READ(ISYS*3) PTRS

      ***   READ(ISYS*4) NDS

      ***   READ(ISYS*5) NRECNO
                    I
         ----------------------------------------
         I KOUNT=0                               I
         I LAST =LPERM                           I
         I RC2  =401+NTEMP-1                     I
         ----------------------------------------
                    I

            DO 6000 RECO = 401, RC2
                    I
         ----------------------------------------
         I NPERM=NPERM+1                         I
         ----------------------------------------
                    I

      ***   READ(IFILE*RECO)  RCORD2
                    I
                    I
                 . *   * .
              . *    IF     * .
           *  (KOUNT.EQ.0)      *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
     - I           0 I          + I
   -------       -------      -------
   I GOTO1100    I     I      I     I
   -------       -------      -------

                    I
```

(CONTINUED ON PAGE 22)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *(LAST.EQ.RCORD2(1))*
         I * .                 . * I
         I     * .         . *     I
         I          * . *          I
      - I           0 I           + I
     -------       -------       -------
     I GOTO1200    I     I       I     I
     -------       -------       -------

                    I
            ----------------------------------------
            I KOS(LAST) =KOUNT                      I
            ----------------------------------------
                    I
            ----------------------------------------
100         I LAST =RCORD2(1)                       I
            ----------------------------------------
                    I

        ***   PTRS(LAST) = NPERM
                    I
            ----------------------------------------
            I KOUNT=1                               I
            ----------------------------------------
                    I
                    I
                 -------
                 I 5500I
                 -------
                 U
                /

1200            CONTINUE
                    I
            ----------------------------------------
            I KOUNT=KOUNT+1                         I
            ----------------------------------------
                    I

1500            CONTINUE
                    I
            ----------------------------------------
            I IQ2  =RCORD2(13)                      I
            I QSTION(1) =RCORD2(1)                  I
            I QSTION(2) =RCORD2(3)                  I
            I QSTION(3) =RCORD2(4)                  I
            I QSTION(4) =RCORD2(5)                  I
            ----------------------------------------
                    I
```

(CONTINUED ON PAGE 23)

```
                    I
                    I
                +-----------+
               + DO         +
++++++++++  5300            +
+          * I = 1 , I32    +
+           +-----------+
+                   I
+                   I
+        ----------------------------------------
+        I II    =ORECNO+1                       I
+        I QSTION(5) =I                          I
+        ----------------------------------------
+                   I
+
+           QSTION(12) =  RCORD2(I+17)
+                   I
+                   I
+              . *   * .
+          . *    IF     * .
+       *  (II.LE.4000)     *
+    1 * .                 . * I
+    I      * .        . *     I
+    I           * . *         I
+  - I           0 I          + I
+ -------       -------      -------
+ I GOTO1300    I     I      I     I
+ -------       -------      -------
+
+                   I
+        ----------------------------------------
+        I J     =KPERM                          I
+        I K     =RCORD2(1)                      I
+        I L     =RCORD2(3)                      I
+        I M     =RCORD2(4)                      I
+        ----------------------------------------
+                   I
+
+           CALL ERROR(SNAME,1,-1,J,K,L,M)
+
1300 ++++++++   WRITE(IQUEST'II) QSTION
        ***     RCORD2(7) = 0
        ***     RCORD2(8) = ORECNO + 1
                   I
            ----------------------------------------
            I ORECNO =ORECNO+IQ2                   I
            ----------------------------------------
                   I

        ***   WRITE(IFILE'KPERM)  RCORD2
                   I
            ----------------------------------------
            I DROP =1                              I
            ----------------------------------------
                   I
                   I
```

(CONTINUED ON PAGE 24)

```
                    I
        ***   WRITE(IFILE'REC)  RCORDC , DPUP

900             CONTINUE
                    I
            ----------------------------------------
            I NCS(LAST) =KOUNT                     I
            I LTEMP=0                              I
            I NTEMP=0                              I
            I LPERM=LAST                           I
            I ERRFLG =1                            I
            ----------------------------------------
                    I

        ***   WRITE(ISYS'2) LPERM, NPERM, LTEMP, NTEMP, ERRFLG

        ***   WRITE(ISYS'3) PTRS

        ***   WRITE(ISYS'4) NCS

        ***   WRITE(ISYS'5) ORECNC

              ENTRY HOLIST

300           CONTINUE

        ***   READ(ISYS'2) LPERM, NUMBER(1), LTEMP, NUMBER(2), ERRFLG
                    I
            ----------------------------------------
            I IPAGE=0                              I
            ----------------------------------------
                    I

              CALL INFO(DATE)

              DO 9000 RED = 1 , 2
                    I
            ----------------------------------------
            I IH   =0                              I
            ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(NUMBER(RED).LE.0) *
         I * .                . * I
         I     * .        . *     I
         I         * . *          I
       - I         0 I          + I
      -------     -------      -------
      I GOTOI000  I     I      I     I
      -------     -------      -------

                    I
            ----------------------------------------
            I II   -ISTART(RED)                    I
```

(CONTINUED ON PAGE 25)


```
                I
        I2=I1-1+NUMBER(REC)

           DO 8000 IRX = I1, I2
                I
                I
             . *   * .
          . *    IF     * .
        *    (IH.GT.0)       *
      I * .                 . * I
      I     * .         . *     I
      I         * . *           I
    - I         0 I           + I
   -------     -------       -------
   I GOTO1000  I     I       I     I
   -------     -------       -------

                I
        ----------------------------------------
        I IPAGE=IPAGE+1                        I
        ----------------------------------------
                I
     ***   WRITE(IPRINT,6999) DATE ,(HEADING(J,RED),J=1,4),IPAG-
                I
        ----------------------------------------
        I IH   =4                              I
        ----------------------------------------
                I
.000       CONTINUE
                I
        ----------------------------------------
        I IH   =IH-1                           I
        ----------------------------------------
                I
     ***   READ(IFILE'IRX)  RCORD2 , DROP
                I
             +------------+
            + DO           +
+++++++++  7500            +
+          + I = 1 , QUESTS
+           +------------+
+                I
+
7500 ++++++++   CALL LSTCDE(RESPNS(I),ANSWER(L,I))
                I
        ----------------------------------------
        I J2   =IRX-I1+1                       I
        I J3   =SORD+1                         I
        I J4   =DROP+1                         I
        ----------------------------------------
                I
     ***   WRITE (IPRINT,7999) COURSE , LESSON , SEGMNT , TYPE ,
           SEQNCE , LABEL(SEQNCE) , J2 , QUESTS  , QLAB(J3) , GRADES
           , SELECT , (DROPPD(J,J4),J=1,2)
                I
```

(CONTINUED ON PAGE 26)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           * (QUESTS.GT.12)     *
        1 * .                 . * 1
        1     * .         . *     1
        1          * . *          1
     - 1          0 1           + 1
   -------      -------       -------
   1 GOTO1700   1     1       1     1
   -------      -------       -------
```

```
      ***   WRITE(IPRINT,8001) (J,J=1,QUESTS)

      ***   WRITE (IPRINT,8002) ((ANSWER(J,K),J=1,2),K=1,QUESTS)

      ***   WRITE (IPRINT,8003)

      ***   WRITE (IPRINT,8003)

      ***   WRITE (IPRINT,8003)

      ***   WRITE(IPRINT,8003)
                  I
               -------
               1 8000I
               -------
```

```
                    I
                    I
7700             . *   * .
              . *    IF     * .
           * (QUESTS.GT.24)     *
        1 * .                 . * 1
        1     * .         . *     1
        1          * . *          1
     - 1          0 1           + 1
   -------      -------       -------
   1 GOTO1800   1     1       1     1
   -------      -------       -------
```

```
      *** WRITE (IPRINT,8001) (J,J=1,12)

      ***   WRITE (IPRINT,8002) ((ANSWER (J,K),J=1,2),K=1,12)

      ***   WRITE (IPRINT,8001) (J,J=13,QUESTS)

      ***   WRITE(IPRINT,8002) ((ANSWER(J,K),J=1,2),K=13, QUESTS)
                  I
```

(CONTINUED ON PAGE 27)

```
                    I
      ***   WRITE (IPRINT,8003)

      ***   WRITE (IPRINT,8003)

      ***   WRITE(IPRINT,8003)
                    I
                 -------
                 I 8000I
                 -------


                    I
                    I
7800             . *   * .
            . *    IF      * .
          * (QUESTS.GT.30)     *
        ! * .                . * I
        1     * .        . *     1
        1         * . *          I
      - I         0 I          + I
     -------     -------      -------
     I GOTO(900  I     1      I     I
     -------     -------      -------

      ***   WRITE (IPRINT,8001) (J,J=1,12)

      ***   WRITE (IPRINT,8002) ((ANSWER (J,K),J=1,2),K=1,12)

      ***   WRITE (IPRINT,8001) (J,J=13,24)

      ***   WRITE (IPRINT,8002) ((ANSWER(J,K),J=1,2),K=13,24)

      ***   WRITE (IPRINT,8001) (J,J=25,QUESTS)

      ***   WRITE (IPRINT,8002) ((ANSWER (J,K),J=1,2),K=25,QUESTS)

      ***   WRITE (IPRINT,8003)

      ***   WRITE(IPRINT,8003)
                    I
                 -------
                 I 8000I
                 -------


900             CONTINUE

      ***   WRITE (IPRINT,8001) (J,J=1,12)

      ***   WRITE (IPRINT,8002) ((ANSWER(J,K),J=1,2),K=1,12)
                    I
```

(CONTINUED ON PAGE 28)

```
                    I
      ***   WRITE (IPRINT,8001) (J,J=13,24)
      ***   WRITE (IPRINT,8002) ((ANSWER(J,K),J=1,2),K=13,24)
      ***   WRITE (IPRINT,8001) (J,J=25,36)
      ***   WRITE (IPRINT,8002) ((ANSWER(J,K),J=1,2),K=25,36)
      ***   WRITE (IPRINT,8001) (J,J=37,QUESTS)
      ***   WRITE (IPRINT,8002) ((ANSWER(J,K),J=1,2),K=37,QUESTS)
      ***   WRITE(IPRINT,8003)
 300        CONTINUE
                    I
                    I
                 . *   * .
              . *   IF    * .
            *   (IH.GT.0)     *
          I * .               . * I
          I     * .       . *     I
          I         * . *         I
        - I         0 I         + I
      -------     -------     -------
      I GOTOI500  I     I     I     I
      -------     -------     -------

                    I
            ----------------------------------------
            I IPAGE=IPAGE+1                        I
            ----------------------------------------
                    I
      ***   WRITE (IPRINT,6999) DATE , (HEADING(J,RED),J=1,4),IPAGE
 1000       CONTINUE
      ***   WRITE (IPRINT,8501) NUMBER(RED)
                    I
                    I
                 . *   * .
              . *   IF    * .
            *   (RED.EQ.1)    *
          I * .               . * I
          I     * .       . *     I
          I         * . *         I
        - I         0 I         + I
      -------     -------     -------
      I GOTOI000  I     I     I     I
      -------     -------     -------

                    I
            ----------------------------------------
            I K     =ERRFLG+1                      I
            ----------------------------------------
```

(CONTINUED ON PAGE 29)


```
                    I
      ***   WRITE ( IPRINT,8994) COND(K)

 900        CONTINUE

      ***   RETURN

 999        FORMAT(1H1  ,  7X , '***  ','AIMS COURSE DESCRIPTION' ,
            '  ***' ,    59X   , 'JOB' , 2X , 2A4  ,  2X , 2A4  ,
              1X  ,  2A4     /   13X ,  4A4   , 61X   , 'PAGE' ,
             I4  /  / )

 7999       FORMAT( 10X , 'COURSE' , 1X ,  I2 ,   11X  , 'LESSON', 1X  ,
            I2 ,  11X ,  'SEGMENT', 1X   ,  I2  , 10X  , 'TYPE' ,  1X  ,
            I1 ,   4X ,  'CONSISTS OF' ,  I2  ,  1X  ,  'CARD'   ,  1X ,
            5X ,  'RECORD' , I4  /
            10X,  'THERE ARE',  I4 , 1X , 'QUESTIONS, EACH OF UP TO'   ,
            1X,  A2 , 1X  ,'ANSWERS.', I4 , 1X , 'WILL BE GRADED.'  ,
            2X , 'THERE ARE' ,  I4  ,  1X ,'POSSIBLE SELECTIONS.'  , 2X ,
             2A4   )

 501        FORMAT( 11(/)  ,  13X    , 'THERE ARE' , I4   ,  1X,
            'RECORDS IN THIS FILE'  )

 301        FORMAT(3X,11(I2,9X),I2)

 302        FORMAT(3X,11(2A4,3X),2A4)

 303        FORMAT(/)

 999        FORMAT( 13X , 'THE CONDITION IS' , 1X , A4)

            END

            SUBROUTINE CTIO(RECD,NUM,LCI)

            COMMON/FILES/IW1(12),IH , IW2(2)

            INTEGER * 2 RECD(65,100)

      ***REWIND IH
                 I
         ----------------------------------------
         I LCI  =1                               I
         I NUM  =0                               I
         ----------------------------------------
                 I
                 I
            +------------+
           + DO          +
++++++++++   500          +
+          + I = 1,100    +
+           +------------+
+                I
+                I
+       ----------------------------------------
+       I READ(IH,END =1000)(RECD(L,I),L=1,65)  I
+       ----------------------------------------
+                I
```

(CONTINUED ON PAGE 30)

```
+
+                I
+        NUM=I
+
500 +++++++++   CONTINUE
                I
        ----------------------------------------
        I LGI  =0                              I
        ----------------------------------------
                I
1000            CONTINUE

      ***REWIND IH

      ***     RETURN

              END

        SUBROUTINE INPUT(INDEV)

        COMMON/SYSTEM/NLESS,NDECK,UREX,NQUIST,NSTUD

        COMMON/FILES/IN1(2),IPRINT,IN2(5),IFILE,IN3(2),ISYS,IN4(3)

        INTEGER * 2 NINFIL,NINGRS

        INTEGER * 2 NAME(13),IDNO(5),SATM,SATV,AVR,RANK,ALGE,GEOM,TRIG,
         ALGI,CALC,PHYS,IQ,READ,COMENT(6), COURSE , CAPIN , RECORD(65)
          , CHEM ,NAVRNK , MTHACH , STUDNO  , SECIND(65)

        EQUIVALENCE (COURSE,RECORD(6)) , (NAME(1),RECORD(6))     ,
         (IDNO(1),RECORD(19)) , (CAPIN,RECORD(25)) , (SATM,RECORD(29))    ,
         (SATV,RECORD(30)) , (AVR,RECORD(31)) , (RANK,RECORD(32))        ,
         (ALGE,RECORD(33)) , (GEOM,RECORD(34)) , (TRIG,RECORD(35))       ,
         (ALGI,RECORD(36)) , (CALC,RECORD(37)) , (PHYS,RECORD(38))       ,
         (IQ,RECORD(39)) , (READ,RECORD(40)) ,  (NAVRNK,RECORD(41))      ,
         (COMENT(1),RECORD(42)) , (MTHACH ,RECORD(39) ) ,(CHEM,RECORD(39))
            , (STUDNO, RECORD(2) )

        DATA RECORD/41*0 , 14 * ' ' ,  10 * 0 /

        DIMENSION NERR(2)

        DATA NERR/'INPU','T'/

        INTEGER DNAM(2)

        DATA DNAM/'DROP',' '/

        INTEGER * 2 DATE(12) , STUDNM(13),DROPFG

        EQUIVALENCE (DROPFG,RECORD(24))

        INTEGER * 2 BLANK

        DATA BLANK/' '/
                I
```

(CONTINUED ON PAGE 31)

```
                    I
          INTEGER  * 2 DATIN(4),DATOUT(4)
          EQUIVALENCE (DATIN(1) , IRECORD(40)) , ( DATOUT(1), IRECORD(50) )
          INTEGER DROPP(2)
          DATA DROPP/' ','YES'/
                    I
          ----------------------------------------
          I NDS  =0                               I
          ----------------------------------------
                    I
      ***READ(ISYS'1) NINFIL,NINCRS
          CALL INFO(LATE)
 200      CONTINUE
                    I
                 +------------+
                + DO            +
 ++++++++++    10              +
 +              + I = 1,41     +
 +               +------------+
 +                  I
 +                  I
 +        ----------------------------------------
 10 ++++++++I RECORD(I) =0                        I
          ----------------------------------------
                    I
                    I
                 +------------+
                + DO            +
 ++++++++++    20              +
 +              + I = 42,55    +
 +               +------------+
 +                  I
 +                  I
 +        ----------------------------------------
 20 ++++++++I RECORD(I) =BLANK                    I
          ----------------------------------------
                    I
                    I
                 +------------+
                + DO            +
 ++++++++++    30              +
 +              + I = 56,65    +
 +               +------------+
 +                  I
 +                  I
 +        ----------------------------------------
 30 ++++++++I RECORD(I) =0                        I
          ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 32)

```
                    I
      *** READ(INDEV,201,END=2800) NAME,IDNO,SATV,SATM,AVG,RANK,M , , ,
          TRIG,ALGI,CALC,PHYS,IQ,READ,COMPOT,COURSE,STUDNO
  201     FORMAT(12A2,A1,  4A2,A1, I3 , I3 ,  I2 , I1 , I1 , I1 , I1 ,
           I2 , I2 ,  I3 ,  I2 , 3X ,  6A2 ,  I2 ,  I1  )
                    I
          ----------------------------------------
          I NOS  =NOS+1                          I
          ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *  (STUDNO.EQ.0)     *
        1 * .                 . * 1
        1     * .         . *     I
        1          * . *          I
     - I          0 I          + I
    -------      -------      -------
    I GOTO199    I     I      I     I
    -------      -------      -------

                    I
                    I
                 . *   * .
              . *    IF     * .
            *(STUDNO.GE.1.AND.STUDNO.LE.NINE(L)
        1 * .                 . * 1
        1     * .         . *     1
        1          * . *          I
     - I          0 I          + I
    -------      -------      -------
    I GOTO175    I     I      I     I
    -------      -------      -------

                    I
          ----------------------------------------
          I 1     =STUDNO                        I
          ----------------------------------------
                    I

          CALL ERROR(NERR,0,1,NOS,1)
                    I
                 -------
                 I 200 I
                 -------


275       ***READ(IFILE'STUDNO) SECOND
                    I
```

(CONTINUED ON PAGE 33)

```
                    I
                    I
                +------------+
               + 90          +
+++++++++++   220            +
+            + I = 1,13      +
             +------------+
+                   I
+                   I
+                   I
+              . *   * .
+          . *    IF     * .
+       *(NAME(I).EQ.SECOND(I+5))
+     I * .                 . * I
+     I      * .        . *     I
+     I           * . *         I
+  - I           0 I          + I
+ -------      -------      -------
+ I GOTO180    I     I      I     I
+ -------      -------      -------
+
+              I
+        ----------------------------------------
+        I J     =STUDNO                         I
+        ----------------------------------------
+                   I
+
+        CALL ERROR(NERR,0,2,NOS,J,I)
+                   I
+               -------
+               I 200 I
+               -------
+
+
+
+
280 ++++++++CONTINUE
                   I
               -------
               I 400 I
               -------

                   I
```

(CONTINUED ON PAGE 34)

```
                    I
                    I
                    I
200               . *   * .
                . *    IF     * .
              * (ASTUD-TEST.FIL)     *
          I * .                   . * I
          I     * .         . *      I
          I          * . *           I
        - I          0 I           + I
       -------      -------       -------
       I 300 I      I 400 I       I 410 I
       -------      -------       -------

300          CALL ERROR(NERR,0,3,NJS,NSTUD)
                    I
                  -------
                  I 25001
                  -------


400          CONTINUE
                    I
             ----------------------------------------
             I C1   =0.                              I
             I C2   =0.                              I
             I SUM1 =0.                              I
             I SUM2 =0.                              I
             ----------------------------------------
                    I
                    I
                +------------+
                + DO         +
++++++++++   600             +
+           + I = 33,37      +
+            +------------+
+                   I
+                   I
+                   I
+                 . *   * .
+               . *    IF     * .
+            *(RECORD(I).EQ.0)    *
+        I * .                   . * I
+        I     * .         . *      I
+        I          * . *           I
+      - I          0 I           + I
+     -------      -------       -------
+     I GOTO100    I     I       I     I
+     -------      -------       -------
+
+                   I
+          ----------------------------------------
+          I SUM1 =SUM1+RECORD(I)                  I
+          ----------------------------------------
+                   I
```

(CONTINUED ON PAGE 35)

```
      +
      +                I
      +       C1=C1+1.
      +
  600 ++++++++CONTINUE
                       I
                       I
                  . *   * .
              . *    IF     * .
            *   (SATP.EQ.0)      *
          I * .                 . * I
          I     * .         . *     I
          I          * . *          I
        - I          0 I          + I
      -------      -------      -------
      I GOTO1000   I     I      I     I
      -------      -------      -------


  800         CONTINUE
                       I
      ------------------------------------ --
      I C2    =C2+1.                          I
      I SUM2  =SUM2+(SATP-200.)/6.            I
      ----------------------------------------
                       I

  900         CONTINUE
                       I
                       I
                  . *   * .
              . *    IF     * .
            *   (SATV.EQ.0)      *
          I * .                 . * I
          I     * .         . *     I
          I          * . *          I
        - I          0 I          + I
      -------      -------      -------
      I GOTO1200   I     I      I     I
      -------      -------      -------

                       I
      ----------------------------------------
      I C2    =C2+1.                          I
      I SUM2  =SUM2+(SATV-200.)/6.            I
      ----------------------------------------
                       I

 1200         CONTINUE
                       I
```

(CONTINUED ON PAGE 36)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *   (AVR.EQ.0)       *
        1 * .                 . * 1
        1      * .        . *     1
        1          * . *          I
     - I           0 I          + I
   -------       -------      -------
   I GOTO I400   I     I      I     I
   -------       -------      -------

                    I
          ----------------------------------------
          I C2    =C2+1.                          I
          I SUM2  =SUM2+AVR                       I
          ----------------------------------------
                    I

I400      CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
           *   (RANK.EQ.0)      *
        1 * .                 . * 1
        1      * .        . *     1
        1          * . *          I
     - I           0 I          + I
   -------       -------      -------
   I GOTO I600   I     I      I     I
   -------       -------      -------

                    I
          ----------------------------------------
          I C2    =C2+1.                          I
          I SUM2  =SUM2+(RANK+1)*10               I
          ----------------------------------------
                    I

I600      CONTINUE
                    I
```

(CONTINUED ON PAGE 37)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *   (PHYS.EQ.0)      *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
     -------      -------      -------
     I GOTO1000   I     I      I     I
     -------      -------      -------

                    I
            ----------------------------------------
            I C2    =C2+1.                         I
            I SUM2 =SUM2+PHYS                      I
            ----------------------------------------
                    I

300         CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
           *    (IO.EQ.0)       *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
     -------      -------      -------
     I GOTO1000   I     I      I     I
     -------      -------      -------

                    I
            ----------------------------------------
            I C2    =C2+1.                         I
            I SUM2 =SUM2+IO/2.                     I
            ----------------------------------------
                    I

400         CONTINUE
                    I
```

(CONTINUED ON PAGE 38)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *   (READ.EQ.0)      *
        L * .                 . * I
        I     * .         . *     I
        I          * . *          I
     - I           0 I          + I
     -------      -------      -------
     I GOTO1400   I     I      I     I
     -------      -------      -------

                    I
           ----------------------------------------
           I C2    =C2+1.                         I
           I SUM2 =SUM2+READ*7.                   I
           ----------------------------------------
                    I

2200       CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
           *    (C1.EQ.0)       *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
     - I           0 I          + I
     -------      -------      -------
     I GOTO1400   I     I      I     I
     -------      -------      -------

                    I
           ----------------------------------------
           I C2    =C2+1.                         I
           I SUM2 =SUM2+(SUM1/C1)                 I
           ----------------------------------------
                    I

2400       CONTINUE
                    I
```

(CONTINUED ON PAGE 39)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *   (C2.GT.0.9)     *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          G I          + I
      -------      -------      -------
      I GOTOI500   I     I      I     I
      -------      -------      -------

                    I
            ----------------------------------------
            I CAPIN=-999                            I
            ----------------------------------------
                    I
                    I
                 -------
                 I 2550I
                 -------


                    I
            ----------------------------------------
500         I CAPIN=SUM2/C2                         I
            ----------------------------------------
                    I

550         CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
           *  (STUDNO.GT.0)     *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
      -------      -------      -------
      I GOTOI700   I     I      I     I
      -------      -------      -------

                    I
            ----------------------------------------
            I NINCRS =NINCRS+1                      I
            I NINFIL =NINFIL+1                      I
            I STUDNO =NINFIL                        I
            ----------------------------------------
                    I
```

(CONTINUED ON PAGE 40)

```
                    I
                    I
                +-----------+
               + DO         +
+++++++++++  2600            +
+              + I = 1,4     +
+               +-----------+
+                   I
+                   I
+          ----------------------------------------
600 ++++++++I DATIN(I) =DATE(I+4)                  I
           ----------------------------------------
                    I

        ***WRITE(IFILE'VINFIL) RECORD
                    I
                 -------
                 I 200 I
                 -------


700        CONTINUE
                    I
           ----------------------------------------
           I RECORD(24) =SECOND(24)                I
           ----------------------------------------
                    I
                    I
                +-----------+
               + DO         +
+++++++++++  2710            +
+              + I =26,28    +
+               +-----------+
+                   I
+                   I
+          ----------------------------------------
710 ++++++++I RECORD(I) =SECOND(I)                 I
           ----------------------------------------
                    I
                    I
                +-----------+
               + DO         +
+++++++++++  2720            +
+              + I =48,65    +
+               +-----------+
+                   I
+                   I
+          ----------------------------------------
720 ++++++++I RECORD(I) =SECOND(I)                 I
           ----------------------------------------
                    I

        *** WRITE(IFILE'STUDNO) RECORD
                    I
```

(CONTINUED ON PAGE 41)

```
                    I
                    I
                 -------
                 I 200 I
                 -------

300        CONTINUE
      ***WRITE(ISYS'1) NINFIL,NINCRS
                    I
                 -------
                 I 5000I
                 -------

           ENTRY DROP(INDEV)

600        CONTINUE
      ***READ(ISYS'1) NINFIL,NINCRS

           CALL INFO(DATE)
                    I
           ----------------------------------------
           I NOS  =0                              I
           ----------------------------------------
                    I

300   ***READ(INDEV,3301,END=4800) STUDNM,STUDNO

301        FORMAT(12A2,A1,  52X  , I3 )
                    I
           ----------------------------------------
           I NOS  =NOS+1                          I
           ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *(STUDNO.GT.0.AND.STUDNO.LE.NINFIL)
         1 * .                  . * I
         I     * .          . *     I
         I          * . *           I
       - I          0 I           + I
      -------      -------       -------
      I GOTO1600   I     I       I     I
      -------      -------       -------

                    I
           ----------------------------------------
           I J    =NINCRS                         I
           ----------------------------------------
                    I
```

(CONTINUED ON PAGE 42)

```
                    I
          I=STUDNO

          CALL ERROR(DNAM,0,1,MOS,I,J)
                    I
                 -------
                 I 3300I
                 -------
```

```
3500      ***READ(ITILE'STUDNO) RECORD
                    I
                    I
                 . *   * .
              . *    IF     * .
            *  (DROPFG.EQ.0)     *
          I * .                 . * I
          I     * .         . *     I
          I          * . *          I
        - I          0 I          + I
       -------      -------      -------
       I GOTO1000   I     I      I     I
       -------      -------      -------

                    I
          ----------------------------------------
          I I    =STUDNO                         I
          ----------------------------------------
                    I

          CALL ERROR(DNAM,0,2,MOS,I)
                    I
                 -------
                 I 3300I
                 -------
```

```
4000      CONTINUE
                    I
               +------------+
              + DO          +
++++++++++  4300            +
+           + I = 1,13      +
+            +------------+
+                   I
+                   I
```

(CONTINUED ON PAGE 43)

```
*** P S-P LOGIC MANUAL  ***  .I.P.S. VERSION III  ***
+
+                I
+                I
+                I
+            . *   * .
+         . *    IF     * .
+       *(STUDNT(I).EQ.NAME(I))
+     I * .                . * I
+     I      * .        . *     I
+     I          * . *          I
+  - I           0 I           + I
+ -------       -------       -------
+ I COTCI300    I     I       I     I
+ -------       -------       -------
+
+                I
+        ----------------------------------------
+        I J     =STUDNO                        I
+        ----------------------------------------
+                I
+
+        CALL SPYCP(LNAM,0,3,MDS,J,I)
+                I
+               -------
+               I 3300I
+               -------
+
+
+
+
300 ++++++++CONTINUE
                I
        ----------------------------------------
        I DROPFG =1                            I
        ----------------------------------------
                I
                I
            +------------+
            + DO         +
++++++++++  4600          +
+           + I = 1,4    +
            +------------+
                I
                I
        ----------------------------------------
        I DATCUT(I) =DATE(I+4)                 I
        ----------------------------------------
                I
+
300 ++++++++CONTINUE

      ***WRITE(IFILE'STUDNO) RECORD
                I
        ----------------------------------------
        I NINCRS =NINCRS-1                     I
        ----------------------------------------
                I
                I
```

(CONTINUED ON PAGE 44)

```
                    I
                    I
                 -------
                 I 6300I
                 -------

 300     ***WRIT.(ISYS'1) NINFIL,NINCDS

            CHTPY LIST

 300        CONTINUE

         ***READ (ISYS'1) NINFIL,NINCDS

            CALL INFO(DATE)
                    I
            ----------------------------------------
            I IH   =0                               I
            I IPAGE=0                               I
            ----------------------------------------
                    I
                    I
              +------------+
             + DO          +
++++++++++  9000            +
+           + I = 1 , NINFIL
+            +------------+
+                   I
+                   I
+                   I
+              . *   * .
+          . *    IF     * .
+       *    (IH.GT.0)       *
+     1 * .                 . * 1
+     1      * .        . *     1
+     1          * . *          I
+  - I           0 I          + I
+ -------       -------      -------
+ I GOTO1000   I      I      I      I
+ -------       -------      -------
+
+                   I
+        ----------------------------------------
+        I IPAGE=IPAGE+1                         I
+        ----------------------------------------
+                   I
+
+    ***WRITE(IPRINT,7999) DATE,IPAGE
+
+    ***WRITE(IPRINT,7999)
+                   I
+        ----------------------------------------
+        I IH   =40                              I
+        ----------------------------------------
+                   I
+                   I
```

```
***  P******* LOGIC MANUAL  ***** C.I.S.S. VERSION III   ******                    45
+
+                    I
+
+       FORMAT(1H1      ,    7X   , '****'   , 2X   , 'AIAS COURSE   ST   ' ,   2X,
+       '****',59X,'JOB', 2X,4A2    ,    2X   ,    4A2   ,   1X    ,  '                ,
+          / 91X,   'PAGE' , I4  /  /    /      )
+
+       FORMAT(
+        1X,  'NAME' ,  22X , 'S.S. NUMB' ,  1X , 'NO.' , 1X ,  '    '
+         , 1X ,  'SAT' , 2X , 'SAT' ,  1X , 'AVR' ,  4X , 'ALG' ,  2X ,
+        'ALG' ,  1X , 'GEOM' , 4X , 'CALC' , 5X , 'IQ' ,4X,'COMMENTS'  ,
+         5X,    'CRSE',1X  , 'DROP' , 1X  , 'DATE' , 5X , 'DATE'      /
+        41X , 'INDX' ,  1X  ,'MATH' , 1X , 'VERB' , 3X , 'RUN'      ,
+         1X , 'BLEM' ,  1X  , 'INTR'  , 4X ,'TRIG' ,  4X  ,'PHYS'
+         2X ,'READ' ,  23X  , 'INTERPO' ,  2X  , 'DROPPED'  /  /    )
+
+    ***READ(IFILE'I), RECORD
+                    I
+       ----------------------------------------
+       I IH    =IH-1                           I
+       I K     =DROPEG+1                       I
+       ----------------------------------------
+                    I
+
+    ***WRITE(IPRINT,8001) NAME , IDAD, STUDNO , CARIN,SAT ,SATV,AVR,AVR K,
+        ALGE, ALGI, GEOM , TRIG , CALC , PHYS , IQ , READ,
+        COMENT , COURSE ,DROPD(K) , DATIN ,DATOUT
+
+       FORMAT( 1X , 12A2,A1 ,  1X ,  4A2,A1 ,   1X , I3  ,   2X ,  I2 ,
+         2X , I3  ,  2X ,  I3 ,  2X , I2  ,  1X , I1  ,  2X , I2  ,
+         3X ,  I2  ,   2X , I2  , 2X  I2  ,   2X ,  I2  ,  2X , I2  ,
+         1X ,  I3 ,   1X ,  I2 ,   1X , 6A2   ,  2X  ,  I2  ,  2X,  2 ,
+         1X ,  4A2  ,   1X  , 4A2    )
+
+++++++++CONTINUE
                    I
       ----------------------------------------
       I IPAGE=IPAGE+1                          I
       ----------------------------------------
                    I

    ***WRITE(IPRINT,7999) DATE ,IPAGE

    ***WRITE(IPRINT,9001) NINFIL,NINCRS

       FORMAT(1X, 9(/)                ,
         13 X   , 'THERE ARE' ,I4  ,' RECORDS IN THE STUDENT FILE'    /
         14 X   , 'OF THESE'  ,I4  ,' STUDENTS REMAIN IN THE COURSE '  )

    ***RETURN

       END

       SUBROUTINE INPUT(INDEV)

       COMMON/SYSTEM/NLESS,NDECK,NREX,NQUEST,NSTUD

       COMMON/FILES/IW1(2),IPPRINT,IW2(5),IFILE,IW3(2),ISYS,IW4(3)
                    I
```

(CONTINUED ON PAGE 46)

```
                I
      INTEGER * 2 NINFIL,NINCRS

      INTEGER * 2 NAME(13),IDNO(5),SATM,SATV,AVE,RANK,ALCE,CEON,TITE,
     ALCT,CALC,PHYS,IQ,READ,COMMENT(6), COURSE , CAPIN , ALCT(  )
     , CHEM ,NAVRNK , MTHACH , STUDNO  , SECONO(-5)

      EQUIVALENCE (COURSE,RECORD(5)) , (NAME(1),RECORD(6))     ,
     (IDNO(1),RECORD(19)) , (CAPIN,RECORD(25)) , (SATM,RECORD(29))    ,
     (SATV,RECORD(30)) , (AVE,RECORD(31)) , (RANK,RECORD(32))         ,
     (ALCE,RECORD(33)) , (CEON,RECORD(34)) , (TITE,RECORD(35))        ,
     (ALCT,RECORD(36)) , (CALC,RECORD(37)) , (PHYS,RECORD(38))        ,
     (IQ,RECORD(39)) , (READ,RECORD(40)) ,  (NAVRNK,RECORD(41))       ,
     (COMMENT(1),RECORD(42)) , (MTHACH ,RECORD(39) ) ,(CHEM,RECORD( ))
        , (STUDNO, RECORD(2) )

      DATA RECORD/41*0 , 14 * ' ' ,  10 * 0 /

      DIMENSION NERR(2)

      DATA NERR/'INPU','T'/

      INTEGER DNAM(2)

      DATA DNAM/'DROP',' '/

      INTEGER * 2 DATE(12) , STUDNM(13),DROPFG

      EQUIVALENCE (DROPFG,RECORD(24))

      INTEGER * 2 BLANK

      DATA BLANK/' '/

      INTEGER  * 2 DATIN(4),DATOUT(4)

      EQUIVALENCE (DATIN(1) , RECORD(43)) , ( DATOUT(1), RECORD(52) )

      INTEGER DROPD(2)

      DATA DROPD/'  ','YES'/
                I
      ----------------------------------------
      I NOS  =0                                I
      ----------------------------------------
                I
   ***READ(ISYS'1) NINFIL,NINCRS

      CALL INFO(DATE)

200   CONTINUE
                I
```

(CONTINUED ON PAGE 47)

```
                        I
                        I
                  +------------+
                  + DO         +
1     ++++++++++     10         +
      +           + I = 1,41   +
      +            +------------+
      +                 I
      +                 I
      +         ----------------------------------------
10    ++++++++I RECORD(I) =0                          I
                ----------------------------------------
                        I
                        I
                  +------------+
                  + DO         +
      ++++++++++     20         +
      +           + I = 42,55  +
      +            +------------+
      +                 I
      +                 I
      +         ----------------------------------------
20    ++++++++I RECORD(I) =BLANK                      I
                ----------------------------------------
                        I
                        I
                  +------------+
                  + DO         +
      ++++++++++     30         +
      +           + I = 56,65  +
      +            +------------+
      +                 I
      +                 I
      +         ----------------------------------------
30    ++++++++I RECORD(I) =0                          I
                ----------------------------------------
                        I

          ***READ(INDEV,201,END=2800) NAME,IDNO,SATM,SATV,CALC,CHEM ,
                MTHACH, NAVRNK , COMENT , COURSE , STUDNO
201       FORMAT( 12A2,A1  ,  4A2,A1 ,  I3 , I3,  11X ,  I2 , I2  ,
                I3 ,  2X ,  I3  ,   6A2  ,  I2  ,  I3 )
                        I
                ----------------------------------------
                I NOS  =NOS+1                         I
                ----------------------------------------
                        I
                        I
```

(CONTINUED ON PAGE 48)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *  (STUDNO.EQ.0)     *
        I * .                 . * I
        I      * .         . *    I
        I          * . *          I
     - I           0 I          + I
   -------       -------      -------
   I GOTO190     I     I      I     I
   -------       -------      -------

                    I
                    I
                 . *   * .
              . *    IF     * .
           *(STUDNO.GE.1.AND.STUDNO.LE.MAXIL)
        I * .                 . * I
        I      * .         . *    I
        I          * . *          I
     - I           0 I          + I
   -------       -------      -------
   I GOTO175     I     I      I     I
   -------       -------      -------

                    I
            ----------------------------------------
            I I     =STUDNO                        I
            ----------------------------------------
                    I

            CALL ERROR(NERR,0,1,MOS,1)
                    I
                 -------
                 I 200 I
                 -------

175      ***READ(IFILE'STUDNO) STCOND
                    I
               +------------+
              + DO           +
         +++++++++   280      +
         +          + I = 1,13 +
         +           +------------+
         +                 I
         +                 I
```

(CONTINUED ON PAGE 49)

```
*** [illegible] ***
+
+                    I
+                    I
+                    I
+                 . * * .
+              . *   IF    * .
+          A(NA [illegible](I).EQ.SECOND(I+5))
+        I * .                  . * I
+        I       . *        . *     I
+        I           * . *          I
+      - I           0 I          + I
+    -------       -------      -------
+    I GOTO180     I     I      I     I
+    -------       -------      -------
+
+                    I
+          ----------------------------------------
+          I J     =STUDNO                        I
+          ----------------------------------------
+                    I
+
+          CALL ERROR(NCRP,0,2,NOS,J,I)
+                    I
+                 -------
+                 I 200 I
+                 -------
+
+
+
+
180 ++++++++CONTINUE
                    I
                 -------
                 I 400 I
                 -------


                    I
                    I
200              . *   * .
              . *    IF     * .
           * (NSTUD-NINFIL)    *
        I * .                  . * I
        I     * .        . *     I
        I         * . *          I
      - I         0 I          + I
     -------     -------      -------
     I 300 I     I 300 I      I 400 I
     -------     -------      -------


300        CALL ERROR(NCRP,0,3,NOS,NSTUD)
                    I
     (CONTINUED ON PAGE  50)
```

```
                    I
                    I
                 -------
                 I 290CT
                 -------

  100       CONTINUE
                    I
            ----------------------------------------
            I CI    =0.                            I
            I SUM1  =0.                            I
            ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *   (SATN.EQ.0)      *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
     - I           0 I          + I
     -------      -------      -------
     I GOTO100    I     I      I     I
     -------      -------      -------

                    I
            ----------------------------------------
            I CI    =CI+1.                         I
            I SUM1  =SUM1+(SATN-200.0)/6.          I
            ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *   (CALC.NE.0)      *
        I * .                 . * I
        I     * .         . *     I
        I          * .            I
     - I           0 I          + I
     -------      -------      -------
     I GOTO1200   I     I      I     I
     -------      -------      -------

                    I
            ----------------------------------------
            I CI    =CI+1.                         I
            I SUM1  =SUM1+(SATN-200.0)/6.          I
            ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 51)

```
                    I
                    I
                 -------
                 I 14C01
                 -------

                    I
                    I
                 . *   * .
              . *    IF     * .
            *   (CALC.EQ.0)      *
          I * .                 . * I
          I     * .         . *     I
          I         * . *           I
        - I         0 I           + I
       -------     -------       -------
       I GOTO1430  I     I       I     I
       -------     -------       -------

                    I
            ----------------------------------------
1200        I C1    =C1+1.                          I
            I SUM1  =SUM1+CALC                      I
            ----------------------------------------
                    I

400         CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
            *   (SATV.EQ.0)      *
          I * .                 . * I
          I     * .         . *     I
          I         * . *           I
        - I         0 I           + I
       -------     -------       -------
       I GOTO1600  I     I       I     I
       -------     -------       -------

                    I
            ----------------------------------------
            I C1    =C1+1.                          I
            I SUM1  =SUM1+(SATV-200.)/6.            I
            ----------------------------------------
                    I

500         CONTINUE
                    I
```

(CONTINUED ON PAGE 52)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *   (CHSA.EQ.0)      *
        I * .                 . * I
        I      * .        . *     I
        I          * . *          I
     - I           0 I           + I
   -------       -------       -------
   I GOTO 1000   I     I       I     I
   -------       -------       -------

                    I
          ----------------------------------------
          I CI    =CI+1.                          I
          I SUMI  =SUMI+CHSA                      I
          ----------------------------------------
                    I

1300      CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
           *   (MTHACH.EQ.0)    *
        I * .                 . * I
        I      * .        . *     I
        I          * . *          I
     - I           0 I           + I
   -------       -------       -------
   I GOTO 1000   I     I       I     I
   -------       -------       -------

                    I
          ----------------------------------------
          I CI    =CI+1.                          I
          I SUMI  =SUMI+(MTHACH-200.0)/6.         I
          ----------------------------------------
                    I

1000      CONTINUE
                    I
```

(CONTINUED ON PAGE 53)

```
                    I
                    I
                    I
                 . *   * .
            . *    IF     * .
          *  (MAVRNK.GE.0)     *
       I * .                 . * I
       I      * .        . *     I
       I          * . *          I
     - I          C I          + I
    -------      -------      -------
    I GOTOI200   I     I      I     I
    -------      -------      -------

                    I
            ----------------------------------------
            I C1    =C1+1.                          I
            I SUM1  =SUM1+(MAVRNK/B.)               I
            ----------------------------------------
                    I

200         CONTINUE
                    I
            ----------------------------------------
            I CAPIN=SUM1/C1                         I
            ----------------------------------------
                    I

550         CONTINUE
                    I
                    I
                 . *   * .
            . *    IF     * .
          *  (STUDNO.GT.0)     *
       I * .                 . * I
       I      * .        . *     I
       I          * . *          I
     - I          0 I          + I
    -------      -------      -------
    I GOTOI700   I     I      I     I
    -------      -------      -------

                    I
            ----------------------------------------
            I NINCRS =NINCRS+1                      I
            I NINFIL =NINFIL+1                      I
            I STUDNO =NINFIL                        I
            ----------------------------------------
                    I
                    I
                +------------+
               + DO           +
     +++++++++  2600           +
     +         + I = 1,4       +
     +          +------------+
     +                I
     +                I
     +      ----------------------------------------
600  +++++++++I DATIN(I) =DATE(I+4)                  I
            ----------------------------------------
```

(CONTINUE) ON PAGE 54)


```
                    I
      ***WRITE(IFILE'NINFIL) RECORD
                    I
                 -------
                 I 200 I
                 -------

2730      CONTINUE
                    I
          ----------------------------------------
          I RECORD(24) =SECOND(24)                I
          ----------------------------------------
                    I
                    I
             +------------+
            + DO          +
++++++++++  2710           +
+           + I =25,29    +
+            +------------+
+                   I
+                   I
+         ----------------------------------------
710 ++++++++I RECORD(I) =SECOND(I)                I
          ----------------------------------------
                    I
                    I
             +------------+
            + DO          +
+++++++++++  2720           +
+           + I =48,65    +
+            +------------+
+                   I
+                   I
+         ----------------------------------------
720 ++++++++I RECORD(I) =SECOND(I)                I
          ----------------------------------------
                    I

      *** WRITE(IFILE'STUDNO) RECORD
                    I
                 -------
                 I 200 I
                 -------

800       CONTINUE

      ***WRITE(ISYS'I) NINFIL,NINCRS
                    I
```

(CONTINUE) ON PAGE 55)

```
                    I
                    I
                 -------
                 I 30001
                 -------

      ENTRY OPEP(INDEV)

300   CONTINUE

    **READ(ISYS'1) NINFIL,NINCRS

      CALL INFO(DATE)
                    I
      ----------------------------------------
      I NOS  =0                                I
      ----------------------------------------
                    I

300   ***READ(INDEV,3201,END=4300) STUDNM,STUDNO

301   FORMAT(12A2,A1,  52X  , I3 )
                    I
      ----------------------------------------
      I NOS  =NOS+1                            I
      ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *(STUDNO.GT.0.AND.STUDNO.LE.NINFIL)
          I * .                 . * I
          I     * .         . *     I
          I          * . *          I
        - I          0 I          + T
       -------      -------      -------
       I GOTO1600   I     I      I     T
       -------      -------      -------

                    I
      ----------------------------------------
      I J     =NINCRS                          I
      I I     =STUDNO                          I
      ----------------------------------------
                    I

      CALL ERROR(DNAM,0,1,NOS,I,J)
                    I
```

(CONTINUED ON PAGE 56)

```
                    I
                    I
                 -------
                 I 3300I
                 -------

500      ***READ(IFILE'STUDNO) RECORD
                    I
                    I
                 . *   * .
              . *    IF     * .
            *  (DROPFG.EQ.0)     *
          I * .                 . * I
          I     * .         . *     I
          I          * . *          I
        - I          0 I          + I
       -------      -------      -------
       I GOTO(500   I     I      I     I
       -------      -------      -------

                    I
            ----------------------------------------
            I I     =STUDNO                        I
            ----------------------------------------
                    I

            CALL ERROR(DNAM,0,2,NOS,1)
                    I
                 -------
                 I 3300I
                 -------


1000        CONTINUE
                    I
                 +-----------+
            + DO              +
++++++++++  4300               +
+           + I = 1,13        +
+            +-----------+
+                   I
+                   I
  (CONTINUED ON PAGE  57)
```

```
*** 2 [illegible] LOGIC MANUAL  *** [illegible] ***  [illegible]
+
+                  I
+                  I
+                  I
+              . *   * .
+          . *     IF      * .
+       *(STUDNM(I).EQ.NAME(I))
+     I * .                  . * I
+     I      * .        . *      I
+     I          . *            I
+   - I          ( I          + I
+ -------      -------      -------
+ I GOTO1300  I      I      I      I
+ -------      -------      -------
+
+          .         I
+        ----------------------------------------
+        I J     =STUDNO                        I
+        ----------------------------------------
+                  I
+
+        CALL ERROR(DNAM,0,3,NGS,J,I)
+                  I
+              -------
+              I 3300I
+              -------
+
+
+
+
300 ++++++++CONTINUE
                  I
        ----------------------------------------
        I DROPFG =1                             I
        ----------------------------------------
                  I
                  I
             +------------+
            + DO            +
++++++++++  4600             +
+          + I = 1,4       +
+           +------------+
+                  I
+                  I
+       ----------------------------------------
+       I DATOUT(I) =DATE(I+4)                  I
+       ----------------------------------------
+                  I
+
500 ++++++++CONTINUE

        ***WRITE(IFILE'STUDNO) RECORD
                  I
        ----------------------------------------
        I NINCRS =NINCRS-1                      I
        ----------------------------------------
                  I
                  I
```

(CONTINUED ON PAGE 501)

```
                    I
                    I
                 -------
                 I 3800I
                 -------

300      ***WRITE(ISYS'1) NINFIL,NINCRS

            ENTRY LIST

300         CONTINUE

         ***READ (ISYS'1) NINFIL,NINCRS

            CALL INFO(DATE)
                     I
            ----------------------------------------
            I IH    =0                              I
            I IPAGE=0                               I
            ----------------------------------------
                     I
                     I
              +------------+
             + DO          +
++++++++++   9000           +
+           + I = 1 , NINFIL
+            +------------+
+                  I
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+        *    (IH.GT.0)      *
+     I * .                 . * I
+     I     * .         . *     I
+     I         * . *           I
+  - I          0 I            + I
+ -------      -------        -------
+ I GOTO1000   I     I        I     I
+ -------      -------        -------
+
+                  I
+         -----   ---------------------------------
+         I IPAGE=IPAGE+1                         I
+         ----------------------------------------
+                  I
+
+     ***WRITE(IPRINT,7999) DATE,IPAGE
+
+     ***WRITE(IPRINT,7998)
+                  I
+         ----------------------------------------
+         I IH    =40                             I
+         ----------------------------------------
+                  I
+                  I
```

```
***  BASIC LOGIC MODUL  ***  [illegible]  VERSION III  [illegible]
+
+                I
+
+       FORMAT(1H1      ,   7X  , '***'  , 2X , '[illegible]' ,  [illegible],
+       '***',55X,'JOB', 2X,A52    ,   2X  ,    A2[illegible]  ,  L[illegible]  ,  [illegible]'        ;
+          / 91X,   'PAGE' , I4  /  /   /      )
+
+       [illegible]F(
+        1X,  'VAGT' ,  22X , 'ACAD NUM.'  , 1X , 'NO.' , [illegible] ,'[illegible]',
+        1X,  'SAT MATH' ,  1X , 'SAT VERB' ,   1X   ,'CALC' ,  1X ,
+        'CHEM' , 1X  ,   'MATH ACH'   , 1X ,   'MASK'  , 2X,'COURSE TYP',
+         5X,    'CKSF',1X  , 'DROP' , 1X  , 'DATE' , 5X , 'DATE'      /
+            117X              , 'ENTERED' ,  2X  , 'DROPPED'  /  /    )
+
8000 +     ***READ(IFILE'() ASCORD
+                I
+        ----------------------------------------
+        I IH    =IH-1                           I
+        I K     =DROPPED+1                      I
+        ----------------------------------------
+                I
+
+     ***WRITE(IPRINT,8001) NAME , IDNO , STUDNO , CAPIT , SYTH , SATV ,
+          CALC ,  CHEM  ,   MTHACH ,  NAVRGK                  ,
+         COMENT , COURSE ,DROPPED(K) , DATIN ,DATOUT
+
001 +        FORMAT( 1X , 12A2,A1 , 1X ,  4A2,A1   ,  1X ,  I[illegible] , 4X ,  I[illegible]  ,
+          7X ,  I3 ,    6X ,  I3   ,    5X ,  I2 ,   3X , I2   , 5X , I[illegible]  ,
+          4X ,  I3 ,  2X ,   6A2   ,  2X ,  I2 ,  2X,  A2,    1X , A[illegible] ,
+          1X ,  4A2    )
+
000 ++++++++CONTINUE
                I
        ----------------------------------------
        I IPAGE=IPAGE+1                         I
        ----------------------------------------
                I

     ***WRITE(IPRINT,7999) DATE,IPAGE

     ***WRITE(IPRINT,9001) NINFIL,NINCKS

001     FORMAT(1X, 9(/)                    ,
          13 X    , 'THERE ARE' ,I4   ,' RECORDS IN THE STUDENT FILE'     /
          14 X    , 'OF THESE'   ,I4   ,' STUDENTS REMAIN IN THE COURSE '   )

     ***RETURN

        END

           SUBROUTINE MBOL(INUNIT,LEVEL)

           COMMON/SYSTEM/NLESS,NDECK,NREFS,NQUEST,NSTUD

           COMMON/FILES/IW1(2),IPRINT,IW2(2),IHEAD,IDIR,IQUEST,I[illegible](3)
           ,ISYS,IW4(3)

           INTEGER * 2  LPERM   ,  NPERM   , IDREC ,
           PTRS(50),      NOS(50)   , MRCORD(65) , LTABLE(4,10,40)
           , MRCORD(40)   ,LESSON,  SEGMNT , TO , MBO ,KEY(17)   ,
           SKIL1, SKIL2 ; MEDIA, TYPE, QUEST , PRES(13) ,COURSE
```

```
                    I
1                INTEGER * 2 QSTION(70) , DICTRY(200), CHAIN(3,400)
                 , POINT1 , POINT2  , CPOINT    , NIC  ,  [illegible]

                 INTEGER PNJ , DECK , RNAME(2) , HEAD , [illegible]

                 DATA RNAME/'ERR0',' '/

                 EQUIVALENCE   (LESSON  , MRCORD(1) )  , (SEGMNT , MRCORD(2) ) ,
                (TO , MRCORD(3) ) ,  (MOD , MRCORD(4)   ), (KEY(1) , MRCORD(5))
                , (SKILL, MRCORD(22) ) ,   (SKILL2, MRCORD(23) ) ,
                 (MEDIA , MRCORD(24) ) , (TYPE , MRCORD(25) )  ,
                 (QUEST , MRCORD(26)  ) , (PRES(1) , MRCORD(27) ) ,
                 (COURSE, MRCORD(40) )  , (OTO  , QSTION(6) )  ,
                 ( OPBO , QSTION(7)  )  , (CPOINT , QSTION(8) )

                 INTEGER LIST(2)

                 INTEGER DATE(6)

                 INTEGER * 2 IONO4
                    I
              ----------------------------------------
              I IREX =0                               I
              ----------------------------------------
                    I

        ***      READ(ISYS'2) LPERM,NPERM
                    I
                    I
                  . *   * .
              . *    IF     * .
            *  (LPERM.GT.0)      *
          I * .                 . * I
          I     * .         . *     I
          I         * . *           I
       - I          0 I            + I
      -------      -------       -------
      I GOTO100    I     I       I     I
      -------      -------       -------

                 CALL ERROR(RNAME,0,1)

        ***      RETURN

200              CONTINUE
                    I
              ----------------------------------------
              I MINLES =LPERM+1                       I
              ----------------------------------------
                    I

        ***      READ(ISYS'3) PTRS
                    I
```

(CONTINUED ON PAGE 61)

```
                    I
        ***   READ(ISYS'4) NDS

              DO 500 LES = 1,LPFRP
                    I
           ----------------------------------------
           I I1    =PTRS(LES)                      I
           I I2    =PTRS(LES)+NDS(LES)-1           I
           I DECK =0                               I
           ----------------------------------------
                    I

              DO 400 RPD = I1,I2

        ***   READ(IHEAD'RND) HRCORD
                    I
           ----------------------------------------
           I DECK =DECK+1                          I
           ----------------------------------------
                    I

              LTABLE(1,DECK,LES) = HRCORD(3)

              LTABLE(2,DECK,LES) = HRCORD(4)

              LTABLE(3,DECK,LES) = HRCORD(8)

              LTABLE(4,DECK,LES) = HRCORD(13)

 400          CONTINUE

 500          CONTINUE

 800          CONTINUE

        ***   READ(INUNIT,801,END=1600) MRCORD

 801          FORMAT( I2 , I1 , I3 , I2 , 17A2 , I1, I1 , I2 , I2 , I2 , I  ,
            12A2,A1, 2X, I2 )
                    I
           ----------------------------------------
           I IREX =IREX+1                          I
           ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 62)

```
                    I
                    I
                    I
                 . *   * .
              . *   IF    * .
          *(LESSON.GE.LAST.LESSON .OR.LP.NE.0)
        1 * .                  . * 1
        1     * .          . *     1
        1          * . *           I
      - I          0 I           + I
     -------      -------       -------
     I GETDIO     I     I       I     I
     -------      -------       -------

                    I
            ----------------------------------------
            I I     =LESSON                        I
            I J     =SEGMNT                        I
            I K     =TYPE                          I
            ----------------------------------------
                    I
            CALL ERROR (PNAME,0,2,INDEX,I,J,K)
                    I
                 -------
                 I 900 I
                 -------


900         CONTINUE
                    I
            ----------------------------------------
            I II    =NOS(LESSON)                   I
            ----------------------------------------
                    I
                    I
                 +------------+
               + DO           +
+++++++++++  1500             +
+            + I = 1,II       +
+            +------------+
+                   I
+                   I
```

(CONTINUED ON PAGE 63)

```
+
+                  I
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *(LTABLE(1,I,LESSON).' .EQ.'NF)
+     I * .                  . * I
+     I        .         . *     I
+     I          * . *           I
+  - I           C I           + I
+ -------       -------       -------
+ I GOTO50 I     I     I       I     I
+ -------       -------       -------
+
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *(LTABLE(2,I,LESSON).NE.TYPE)
+     I * .                  . * I
+     I      * .        . *     I
+     I          * . *           I
+  -             C I           + I
+ -------       -------       -------
+ I GOTO50 I     I     I       I     I
+ -------       -------       -------
+
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *(QUEST.GE.1.AND.QUEST.LE.LTABLE(4,I,LESSON))
+     I * .                  . * I
+     I      * .        . *     I
+     I          * . *           I
+  - I           C I           + I
+ -------       -------       -------
+ I GOTO1000 I     I     I       I     I
+ -------       -------       -------
+
+                  I
+         ----------------------------------------
+         I J     =LTABLE(4,I,LESSON)              I
+         I K     =QUEST                           I
+         ----------------------------------------
+                  I
+
+            CALL ERROR(FNAME,0,3,IREX,J,K)
+                  I
```

(CONTINUED ON PAGE 64)

```
*** PROGRAM LOGIC FLOWCHART ***  [illegible]
+
+                I
+                I
+             -------
+             I [illegible] I
+             -------
+
+
+
+                I
+                I
+           . *   * .
+        . *    IF     * .
+      *(TC.GT.0.AND.TC.LE.200.[illegible]-3.[illegible])
+    I * .                . * I
+    I     * .        . *     I
+    I         * . *          I
+  - I          0 I          + I
+ -------      -------      -------
+ I G TWILOG   I     I      I     I
+ -------      -------      -------
+
+                I
+        ----------------------------------------
+        I J     =TC                            I
+        I K     =MOD                           I
+        ----------------------------------------
+                I
+
+          CALL BPROP(RNAME,0,4,TREX,J,K)
+                I
+             -------
+             I 800 I
+             -------
+
+
+
+                I
+        ----------------------------------------
+        I RND   -LTABLE(3,I,LESSON)+QUEST      I
+        ----------------------------------------
+                I
+                I
+                I
+      .       . *   * .
+        . *    IF     * .
+      *(LESSON.LT.MINLES) *
+    I * .                . * I
+    I     * .        . *     I
+    I         * . *          I
+  - I          0 I          + I
+ -------      -------      -------
+ I MINLIS=LESSON  I      I     I
+ -------      -------      -------
+
+                I
```

(CONTINUED ON PAGE 65)

```
*** [illegible]
+
+                I
+
+    ***   READ(ICUPST*RND) Q-TE[illegible]
+                I
+        ----------------------------------------
+        I ST[illegible] =T[illegible]                          I
+        I [illegible] =[illegible]                             I
+        ----------------------------------------
+                I
+
+           QSTIO[illegible](1[illegible]) = SKILL
+
+           QSTIO[illegible](14) = SKILL2
+
+           QSTIO[illegible](15) = MEDIA
+                I
+           +------------+
+         + DO           +
++++++++++  1200          +
+         + J = 1,17     +
+           +------------+
+                I
+
+           QSTIO[illegible](J + 40) = KEY(J)
+
 200 ++++++++   CONTINUE
+                I
+           +------------+
+         + DO           +
++++++++++  1300          +
+         + J = 1,13     +
+           +------------+
+                I
+
+           QSTIO[illegible](J + 57 ) = PRES(J)
+
 1300 ++++++++   CONTINUE
+
+    ***   WRITE(ICUPST*RND) QSTION
+                I
+              -------
+              I 800 I
+              -------
+
+
+
 1500 ++++++++   CONTINUE
                 I
        ----------------------------------------
        I I     =LESSON                          I
        I J     =SEGMNT                          I
        I K     =TYPE                            I
        ----------------------------------------
                 I

           CALL ERROR(RNAME,0,5,IREX,I,J,X)
                I
    (CONTINUED ON PAGE  66)
```

```
                    I
                    I
                 -------
                 I 300 I
                 -------

500              CONTINUE
                    I
          ------------------------------------
          I IDUP=L                            I
          I LESS =L                           I
          ------------------------------------
                    I
                    I
                    I
                 . * .   * .
              . *    IF      * .
            *  (LEVEL.NE.2)      *
         I * .                 . * I
         I      * .        . *     I
         I          * . *          I
       - I          0 I          + I
      -------      -------      -------
      I OUTC1000   I     1      I     I
      -------      -------      -------

                    I
                 +------------+
                + DO            +
++++++++++  1700            +
+          * I = L , LPERM+
+           +------------+
+                   I
+                   I
+         ------------------------------------
+         I J     =PTRS(I)                    I
+         ------------------------------------
+                   I
+
+     ***    READ(IHEAD'J) HRCORD
+                   I
```

(CONTINUED ON PAGE 67)

```
+
+                I
+                I
+                I
+            . *   * .
+         . *    IF     * .
+      *(HRCORD(7).EQ.0)    *
+    I * .                . * I
+    I      * .        . *     I
+    I          * . *          I
+  - I          0 I          + I
+ -------      -------      -------
+ I GOTO(200) I      I      I      I
+ -------      -------      -------
+
+                I
+        ----------------------------------------
+        I LESS =I                               I
+        I IDREC=HRCORD(7)                       I
+        ----------------------------------------
+                I
+
/200 ********   CONTINUE

*800            CONTINUE
                I
                I
            . *   * .
         . *    IF     * .
      *(LESS.LE.MINLFS)    *
    I * .                . * I
    I      * .        . *     I
    I          * . *          I
  - I          0 I          + I
 -------      -------      -------
 I GOTO100 I      I      I      I
 -------      -------      -------

                I
        ----------------------------------------
        I LESS =MINLFS                          I
        I IL   =PTRS(LESS)                      I
        ----------------------------------------
                I

     ***   READ(IHEAD'(1) HRCORD
                I
        ----------------------------------------
        I IDREC=HRCORD(7)                       I
        ----------------------------------------
                I

 900            CONTINUE
                I
```

(CONTINUED ON PAGE 68)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            * (LESS.GT.LPERM)    *
         I * .                 . * I
         I     * .         . *     I
         I          * . *          I
       - I          0 I          + I
       -------      -------      -------
       I GOTO(000   I     I      I     (
       -------      -------      -------

                    I
              + -----------+
             + DO            +
+++++++++++  2100             +
+          + I = 1,200      +
+           +------------+
+                  I
+
+         ----------------------------------------
100 ++++++++[ ORCTRY(I) =0                        I
          [ I1    =PTRS(LESS)                     I
          [ I2    =PTRS(LPERM)+NOS(LPERM)-1       I
          ----------------------------------------
                  I

      ***   READ(IHEAD'I1) HRCORD
                  I
          ----------------------------------------
          I I1    =HRCORD(3)                      I
          ----------------------------------------
                  I

      ***   READ(IHEAD'I2) HRCORD
                  I
          ----------------------------------------
          I I2    =HRCORD(3)+HRCORD(10)-1         I
          ----------------------------------------
                  I
                  I
              +------------+
             + DO            +
+++++++++++  2200             +
+          + I = I1 , I2    +
+           +------------+
+                  I
+
+     ***   READ(IQUEST'I) QSTION
+
+           CHAIN(1,I) = QTC
+
+           CHAIN(2,I) = QMBO
+                  I
```

(CONTINUED ON PAGE 69)

```
*** P.C.P.S. LOGIC MANUAL  *** A.I.T.S. VERSION III   ***
+
+                I
+
+          CHAIN(3,I) = 0
+
200 ++++++++   CONTINUE

100            CONTINUE

               DO 5500 LS = LFSS,LPSS
                     I
            ----------------------------------------
            I IFRST=PTFS(LS)                        I
            I ILAST=PTPS(LS)+NOS(LS)-1              I
            ----------------------------------------
                     I

               DO 5000 HEAD = IFRST , ILAST

        ***    READ(INHEAD'HEAD) HPCORD
                     I
            ----------------------------------------
            I IR1  =HPCORD(9)                       I
            I IR2  =HPCORD(13)+IR1-1                I
            ----------------------------------------
                     I

               DO 4500 RND = IR1,IR2
                     I
            ----------------------------------------
            I TO   =CHAIN(1,RND)                    I
            ----------------------------------------
                     I
                     I
                     I
                  . *   * .
              . *    IF     * .
            *    (TO.EQ.0)      *
          I * .                . * I
          I  .   * .        . *    I
          I          * . *         I
       - I           0 I          + I
      -------      -------      -------
      I GOTO1500   I     I      I     I
      -------      -------      -------

                     I
            ----------------------------------------
            I M30  =CHAIN(2,RND)                    I
            ----------------------------------------
                     I
                     I
```

(CONTINUED ON PAGE 70)

```
                    I
                    I
                    I
                 . *   * .
              . *   IF    * .
           *(DRCTRY(IC).NE.0)  *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
     -------      -------      -------
     I GOTO1000   I     I      I     I
     -------      -------      -------

            DRCTRY(IC) = RNO
                    I
                 -------
                 I 4500I
                 -------


1300        CONTINUE
                    I
          ----------------------------------------
          I I     =DRCTRY(IG)                    I
          ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *   IF    * .
           *(MBO.CE.CHAIN(2,I))*
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
     -------      -------      -------
     I GOTO1000   I     I      I     I
     -------      -------      -------

            CHAIN(3,RNO) = I

            DRCTRY(IG) = RNO
                    I
                 -------
                 I 4500I
                 -------


                    I
```

(CONTINUED ON PAGE 71)

```
                    I
1900            CONTINUE
                    I
          ------------------------------------------
          I POINT1 =ORCTRY(10)                     I
          ------------------------------------------
                    I
          ------------------------------------------
          I POINT2 =CHAI (3,POINT1)                I
          ------------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *  (P INT2.NE.0)    *
         I * .                . * I
         I     * .        . *     I
         I          * . *         I
       - I          0 I          + I
       -------      -------      -------
       I GOTO1800   I     I       I     I
       -------      -------      -------

                CHAIN(3,POINT1) = RND
                      I
                    -------
                    I 4500I
                    -------


                    I
                    I
1800             . *   * .
              . *    IF     * .
            *(RND.GE.CHAIN(2,POINT2))
         I * .                . * I
         I     * .        . *     I
         I          * . *         I
       - I          0 I          + I
       -------      -------      -------
       I GOTO1200   I     I       I     I
       -------      -------      -------

                CHAIN(3,RND) = POINT2

                CHAIN(3,POINT1) = RND
                      I
```

(CONTINUED ON PAGE 72)

```
                    I
                    I
                 -------
                 I 4500I
                 -------

300          CONTINUE
                    I
            ----------------------------------------
            I POINT1 =POINT2                        I
            ----------------------------------------
                    I
                    I
                 -------
                 I 3400I
                 -------

500          CONTINUE
                    I
            ----------------------------------------
            I HRCORD(7) =IDREC                      I
            ----------------------------------------
                    I

      ***    WRITE(IHEAD'HEAD) HRCORD

300          CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
           *  (LEVEL.EQ.0)      *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
     - I           C I          + I
     -------      -------      -------
     I GOTOI300   I     I      I     I
     -------      -------      -------

                    I
```

(CONTINUED ON PAGE 73)

```
                    I
                    I
                    I
                 . * * .
              . *   IF   * .
            *  (LS.NE.LP(1,M))   *
          L * .                 . * I
          L     * .         . *     L
          I         * . *           I
        - I         ( I           + I
       -------     -------       -------
       I GOTO(500) I     I       I     I
       -------     -------       -------


300          CONTINUE

        ***  WRITE(IFILE'IDREC) DRCTRY
                    I
            ----------------------------------------
            I IDREC=IDREC+1                        I
            ----------------------------------------
                    I
                    I
              +------------+
             + DO          +
++++++++++  5200            +
+           + I = 1,200     +
+            +------------+
+                   I
+                   I
+           ----------------------------------------
200 ++++++++I DRCTRY(I) =0                         I
            ----------------------------------------
                    I

500           CONTINUE
                    I
            ----------------------------------------
            I I1    =PTRS(LFSS)                    I
            I I2    =PTRS(LPERM)+NOS(LPERM)-1      I
            ----------------------------------------
                    I

        ***   READ(IHEAD'I1) HRCORD
                    I
            ----------------------------------------
            I I1    =HRCORD(3)                     I
            ----------------------------------------
                    I

        ***   READ(IHEAD'I2) HRCORD
                    I
            ----------------------------------------
            I I2    =HRCORD(8)+HRCORD(13)-1        I
            ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 74)

```
                    I
          2 700  AG = II , 1
***    READ(IQUEST'ANS) QSTION
                    I
       ---------------------------------------
       I CPAINT =CHAIN(3,RAD)                I
       ---------------------------------------
                    I
***    WRITE(IQUEST'ANS) QSTION

600       CONTINUE
                    I
       ---------------------------------------
       I IDRTC=IDREC-1                       I
       ---------------------------------------
                    I
***    WRITE(ISYS'6) IDRTC

       ENTRY VRDLST

7000      CONTINUE

       CALL INFO(DATE)

***    READ(ISYS'6) IDREC
                    I
       ---------------------------------------
       I IPAGE=0                             I
       I IREX =0                             I
       ---------------------------------------
                    I
                    I
                    I
                 . *   * .
             . *    IF     * .
           *  (IDREC.LE.0)      *
         I * .                 . * I
         I     * .         . *     I
         I          * . *          I
       - I          0 I          + I
     -------      -------      -------
     I GOTO1600   I     I      I     I
     -------      -------      -------


       DO 8500 IDN = 1, IDRTC

***    READ(IDIR'IDN) DRCTRY
                    I
       ---------------------------------------
       I IW    =0                            I
       ---------------------------------------
                    I
                    I
```

```
                 I
            DO 8000 IJ = 1,90
                 I
        ----------------------------------------
        I RMO  =.RCTRY(IP)                      I
        ----------------------------------------
                 I
                 I
                 I
              . *   * .
          . *    IF     * .
        *   (X*0.LE.0)      *
     I * .                 . * I
     I     * .         . *     I
     I         * . *           I
   - I         0 I           + I
 -------     -------       -------
 I GOTO1000  I     I       I     I
 -------     -------       -------

                 I
                 I
              . *   * .
          . *    IF     * .
        *    (IW.GT.0)      *
     I * .                 . * I
     I     * .         . *     I
     I         * . *           I
   - I         0 I           + I
 -------     -------       -------
 I GOTO1500  I     I       I     I
 -------     -------       -------

                 I
        ----------------------------------------
        I IPAGE=IPAGE+1                         I
        ----------------------------------------
                 I
      ***   WRITE(IPRINT,7001) DATE,ION,IPAGE
      ***   WRITE(IPRINT,9302)
                 I
        ----------------------------------------
        I IW   =10                              I
        ----------------------------------------
                 I
 500          CONTINUE
                 I
        ----------------------------------------
        I IREX =IREX+1                          I
        ----------------------------------------
                 I
                 I
```

(CONTINUED ON PAGE 76)

```
                    I
      ***   READ(ICUBST'RAD) QSTION

            CALL LSTCDE(QSTION(12),LIST)

      ***   WRITE(IPRINT,9001) (QSTION(L),L=1,5) , (QSTION(L),L=6,7) ,
            LIST ,  (QSTION(L),L=12,15) , (QSTION(L),L=21,26)
                    I
          ----------------------------------------
          I RAD  =QPRINT                          I
          I I    =IW-1                            I
          ----------------------------------------
                    I
                    I
                 -------
                 I 7300I
                 -------


 300        CONTINUE

7500        CONTINUE

 800        CONTINUE

      ***   WRITE(IPRINT,9701) IRAX

      ***   RETURN

            ENTRY QLIST

 900        CALL INFO(DATE)

      ***   READ(ISYS'5) IQNUM
                    I
                    I
                  . *   * .
              . *    IF     * .
          *  (IQNUM.LE.0)      *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
     - I           0 I          + I
    -------       -------      -------
    I GOTO I700   I     I      I     I
    -------       -------      -------

                    I
          ----------------------------------------
          I IW   =0                               I
          I IPAGE=0                               I
          ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 77)

```
                    I
              DO 9500 RNG = 1, IQNUM
                    I
                    I
                 . *   * .
            . *     IF      * .
          .     (IW.GT.0)       .
       I * .                   . * I
       I     * .           . *     I
       I         * . *             I
     - I         0 I             + I
     -------     -------         -------
     I GOTO(300  I     I         I     I
     -------     -------         -------

                    I
          ----------------------------------------
          I IPAGE=IPAGE+1                        I
          ----------------------------------------
                    I
     ***    WRITE(IPRINT,9301) DATE, IPAGE

     ***    WRITE(IPRINT,9302)
                    I
          ----------------------------------------
          I IW    =10                            I
          ----------------------------------------
                    I
300            CONTINUE

     ***    READ(IQUEST'RNG) QSTION

            CALL LSTCDE(QSTION(12),LIST)

     ***    WRITE(IPRINT,9001) (QSTION(L),L=1,3) , (QSTION(L),L=5,7)  ,
            LIST ,  (QSTION(L),L=13,15) , (QSTION(L),L=21,70)
                    I
          ----------------------------------------
          I IW    =IW-1                          I
          ----------------------------------------
                    I
300            CONTINUE

9700           CONTINUE

     ***    WRITE(IPRINT,9701) IQNUM

     ***    RETURN

9001           FORMAT(1H1 ,  7X , '***  ','AIMS MBO LISTING',
                '  ***',  56X     ,'JOB', 2X , 2A4 ,    2X ,
            2A4  ,  1X,  2A4  /     13X  ,'SCOPE NUMBER',  I4  ,
                 62X  ,'PAGE'  ,  I4 ///)
                    I
```

(CONTINUED ON PAGE 78)

```
301     FORMAT(2X , I2 , 3X , I2 , 2X , I1 , 2X , I2 , 1X , I2 , I2 ,
        I2, 1X , 2A4 , 1X , I1 , 3X , I1 , 3X , I2 , 2X , I1 ,
        2X , I3 , 2X , I3 , 2X , I3 , 3X , I3 , 3X , I3 , 2X ,
        I3 , 2X , I3 , 1X , I5 , 11(I6, I5 ) /190 ,17A2, A ,
        12A2,A1 / )

302     FORMAT( 1X , 'LESS' , 1X , 'SEQ' , 1X , 'TP' , 1X , 'ASI' ,
        1X , 'TO', 1X , 'FO' , 1X , 'CORRECT', 1X , 'SKL' , 1X ,
        'SKL', 1X , 'MDIA' , 1X , 'PCT.' , 1X , 'VALD' , 1X ,'STD',
        1X , 'AVG' , 3X , 'AVG', 3X ,'A' , 5X , 'A' , 5X , 'PI' ,
        2X ,'LOW' , 1X , 'RESPONSE COUNTERS' /
        23X , 'ANSWER' , 3X ,'1', 3X , '2' , 7X , ' 1FC' , 6A , '
        'DEV' , 1X , 'RT' , 1X , 'GP' , 1X , 'WG', 1X , 'GP' , 1X ,
        'RT' , 1X , 'GP' , 1X , 'WG' , 1X , 'GP' , 1X , 'GP' ,
        1X , 'GP' , 1X , 'BLK', 1X , 'A' , 3X , 'B' , 3X , 'C' ,
        3X , 'D' , 3X , 'E' , 3X , 'F' , 3X , 'G' , 3X , 'H' , 3X ,
        'I' , 3X , 'J' / / )

301     FORMAT(1H1 , 7X , '***  ', 'AIMS QUESTION LISTING' ,
            '  ***', 51 X , 'JOB', 2X, 2A4 , 2X ,
        2A4 , 1X , 2A4 / 91X , 'PAGE' , I4 ///)

7701    FORMAT(1X, 9(/) , 13X ,
        'THERE ARE' , I4 , ' RECORDS IN THIS FILE' )

        END

        SUBROUTINE PROCES(LESSON)

        COMMON/FILES/IN(15)

        COMMON/SYSTEM/IL(5)

        INTEGER DECKS

        INTEGER * 2 ANSWER(10,185),SECOND(10,185),QSTION(18,48,10),
        SAMPLE(60),SDEV(60),MEAN(60),MIN(60),MAX(60),REPLY(65,10),
        HEADER(65,10)

        EQUIVALENCE(REPLY(1,1),SECOND(1,1)),
        (HEADER(1,1),SECOND(10,80) )

        CALL OPSYS('LOAD','AIMSPRC2')

        CALL OPSYS('LOAD','AIMSTAPE')

        CALL PROC1(LESSON,DECKS,ANSWER,QSTION,REPLY,HEADER,
      SAMPLE,SDEV,MEAN,MIN,MAX )

        CALL OPSYS('LOAD','AIMSPRC3')

        CALL PROC2(LESSON,DECKS,ANSWER,SECOND,QSTION,
      SAMPLE,SDEV,MEAN,MIN,MAX )

***     RETURN
```

(CONTINUED ON PAGE 709)

```
                    I
              END

              SUBROUTINE PROCI(LESSON,DECKS, ANSWER , QSTION, REPLY, NAME ,
              SAMPLE , SDEV, MEAN , MIN, MAX )

              COMMON/SYSTEM/MLESS,NDECK,NRCX,NUMEST,NSTUD

              COMMON/FILES/IW1(2),IPRINT,IWESP,ISCRCH, INFAD,IW2(2),
                ISTOMT, ISCORE ,  IW3 ,  ISYS , IW4(3)

              INTEGER *2 LPERM ,NDS(50),  PTRS(50) , HEADER(65,10) ,NSTUD,
              COPCH,COUNT(11), SCRTCH(65)

              INTEGER2 PNAME(2),FLAG  , DECKS , TEST  , TYPE , STDENT, NUMST,
              SELECT, RSELCT , RITE , WRONG , PROMC2 , CST

              DATA PNAME/'PROC','ESS'/

              INTEGER * 2 REPLY(65,10) , QSTION(18,42,10) , ANSWER(10,100) ,
              MEAN(60) , SDEV(60) ,SAMPLE(60),MAX(60) , MIN(60), ANS, RSP

      ***     REAL * 8        A , B , C , SUMSQ(10) , SUM(10)

              INTEGER ENDFIL , COUNTR, LRT , POINTR , END

              INTEGER * 2 MISSED

              DATA MISSED/-999/
                    I
           ----------------------------------------
           I IROUND(E) =C+0.5                      I
           ----------------------------------------
                    I

      ***     READ(ISYS'2) LPERM
                    I
                    I
                 . *   * .
             . *    IF     * .
          *(LESSON.GT.0.AND.LESSON.LE.LPERM)
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
     - I          0 I           + I
   -------      -------       -------
   I GOTO100    I     I       I     I
   -------      -------       -------

                    I
           ----------------------------------------
           I I     =LESSON                         I
           I J     =LPERM                          I
           ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 80)

```
                    I
            CALL ERROR(PNAME,0,1,I,U)
      ***   RETURN
 200        CONTINUE
            CALL TAPSVC(LESSON,FLAG)
                    I
                    I
                 . *   * .
              . *    IF     * .
          *   (FLAG.NE.0)      *
       I * .                 . * I
       I     * .         . *     I
       I          * . *          I
    - I           * I           + I
    -------      -------      -------
    I RETURN     I     I      I     I
    -------      -------      -------

      ***   READ(ISYS'3) PTRS

      ***   READ(ISYS'4) NOS
                    I
          ----------------------------------------
          I DECKS=NOS(LESSON)                    I
          I I1    =PTRS(LESSON)                  I
          I I2    =I1+NOS(LESSON)-1              I
          I J     =0                             I
          ----------------------------------------
                    I
                    I
             +------------+
            + DO          +
   +++++++++   400         +
   +        + I = I1 , I2  +
   +         +------------+
   +                I
   +                I
   +        ----------------------------------
   +        I J     =J+1                    I
   +        ----------------------------------
   +                I
   +
   +    ***   READ(IHEAD'I) (HEADER(K,J),K =1,65)
   +
 400 ++++++++   CONTINUE
                    I
```

(CONTINUED ON PAGE 81)

```
                    I
                    I
                +------------+
               + DO          +
++++++++++   600              +
+            + K = 1, 10     +
+             +------------+
+                   I
+                   I
+             +------------+
+            + DO          +
++++++++++   600              +
+            + J = 1, 48     +
+             +------------+
+                   I
+                   I
+             +------------+
+            + DO          +
++++++++++   600              +
+            + I = 1,17      +
+             +------------+
+                   I
+
+             QSTIBH(I,J,K) = 0
+
600 ++++++++   CONTINUE
                    I
                +------------+
               + DO          +
++++++++++   700              +
+            + I = 1 , 10    +
+             +------------+
+                   I
+                   I
+          ----------------------------------------
+          I SUMSQ(I) =0.0                         I
+          I SUM(I) =0.0                           I
+          ----------------------------------------
+                   I
+
700 ++++++++   CONTINUE
                    I
                +------------+
               + DO          +
++++++++++   800              +
+            + I = 1,60      +
+             +------------+
+                   I
+                   I
+          ----------------------------------------
+          I MAX(I) =-1000                         I
+          I MIN(I) =10000                         I
+          I SDEV(I) =0                            I
+          I SAMPLE(I) =0                          I
+          I MEAN(I) =0                            I
+          ----------------------------------------
+                   I
+                   I
```

(CONTINUED ON PAGE 82)

```
     +
     +                I
     +
800  ++++++++   CONTINUE
                      I
              ----------------------------------------
              I ENDFIL =0                            I
              ----------------------------------------
                      I

          ***   READ(ISYS'1) ROSTER
                      I
                      I
                  . *   * .
               . *    IF     * .
            *  (ROSTER.GT.0)     *
          L * .                 . * 1
          I     * .         . *     I
          I         * . *           I
        - I         - 0 I           + I
       -------     -------         -------
       I GOTO650   I     I         I     I
       -------     -------         -------


                CALL ERROR(PNAME,0,6)

          ***   RETURN

650             CONTINUE

                DO 6500 STDENT = 1, ROSTER
                      I
                +------------+
               + DO          +
     ++++++++++   875         +
     +         + I = 1,10     +
     +           +------------+
     +                I
     +
     +           ANSWER(I,STDENT) = 0
     +
875  ++++++++   CONTINUE
                      I
              ----------------------------------------
              I COUNTR =0                            I
              I LRI  =0                              I
              I POINTR =1                            I
              ----------------------------------------
                      I

                DO 6250 TEST = 1 , DECKS
                      I
```

(CONTINUED ON PAGE 83)

```
                    I
                    I
                    I
900               . *   * .
            . *     IF      * .
        *(POINTR.LE.COUNTR)  *
      I * .                 . * I
      I     * .         . *     I
      I         * . *           I
    - I         0 I           + I
  -------     -------       -------
  I GOTO1900  I     I       I     I
  -------     -------       -------

                    I
                    I
                  . *   * .
            . *     IF      * .
        *  (ENDFIL.NE.0)      *
      I * .                 . * I
      I     * .         . *     I
      I         * . *           I
    - I         0 I           + I
  -------     -------       -------
  I GOTO1000  I     I       I     I
  -------     -------       -------

                    I
                    I
                  . *   * .
            . *     IF      * .
        *   (LRI.NE.0)        *
      I * .                 . * I
      I     * .         . *     I
      I         * . *           I
    - I         0 I           + I
  -------     -------       -------
  I GOTO1000  I     I       I     I
  -------     -------       -------

          CALL TPDATA( STDENT , FLAG , LRI ,COUNTR, REPLY)
                    I
```

(CONTINUED ON PAGE 84)

```
                    I
                    I
                    I
                 . *   * .
              . *   IF     * .
           *   (FLAG.NE.0)      *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
     - I           0 I          + I
   -------       -------      -------
   I GOTO1000    I     I      I     I
   -------       -------      -------

                    I
            ----------------------------------------
            I POINTR =1                            I
            ----------------------------------------
                    I
                    I
                 -------
                 I 1500I
                 -------


 900            CONTINUE

                GO TO(6000 ,1400 , 1200) , FLAG

1200            CONTINUE

        ***     RETURN

1400            CONTINUE
                    I
            ----------------------------------------
            I ENDFIL =1                            I
            ----------------------------------------
                    I
                    I
                 -------
                 I 6000I
                 -------


 500            CONTINUE
                    I
```

(CONTINUED ON PAGE 85)

```
                    I
                    I
                    I
                 . *.   * .
              . *    IF      * .
           *(REPLY(3,POINTR)-HEADER(3,TEST))
        I * .                  . * I
        I      * .        . *      I
        I           * . *           I
     - I            0 I            + I
     -------        -------        -------
     I 1700I        I 1800I        I 6000I
     -------        -------        -------
```

```
800          CONTINUE
                    I
                    I
                 . *   * .
              . *    IF      * .
           *(REPLY(4,POINTR)-HEADER(4,TEST))
        I * .                  . * I
        I      * .        . *      I
        I           * . *           I
     - I            0 I            + I
     -------        -------        -------
     I 1700I        I 1800I        I 6000I
     -------        -------        -------
```

```
700          CONTINUE
                    I
          ----------------------------------------
          I I     =REPLY(1,POINTR)                I
          I J     =REPLY(2,POINTR)                I
          I K     =REPLY(3,POINTR)                I
          I L     =REPLY(4,POINTR)                I
          ----------------------------------------
                    I

          CALL FRKOP(PNAME,0,5,I,J,K,L)
                    I
          ----------------------------------------
          I POINTR =POINTR+1                      I
          ----------------------------------------
                    I
                    I
                 -------
                 I 900 I
                 -------


600          CONTINUE
                    I
          ----------------------------------------
          I TYPE =HEADER(4,TEST)                  I
          ----------------------------------------
                    I
```

(CONTINUED ON PAGE 86)

```
                    I
          NOQST=HEADER(13,TEST)
                    I
          ----------------------------------------
          I SELECT =0                            I
          I PSELCT =0                            I
          I RITE =0                              I
          I NOGRP=0                              I
          ----------------------------------------
                    I

             DO 2000  I  = 1 , 17
                    I
          ----------------------------------------
          I SCRTCH(I) =REPLY(I,POINTR)           I
          ----------------------------------------
                    I

2000         CONTINUE

             DO 3000 QST = 1, NOQST
                    I
          ----------------------------------------
          I QNO   =QST+17                        I
          I ANS   =HEADER(QNO,TEST)              I
          I RSP   =REPLY(QNO,POINTR)             I
          I NO    =IPASS(ANS,RSP,NOPCH,COUNT)    I
          ----------------------------------------
                    I
                    I
             +------------+
            + DO          +
++++++++++  2100           +
+          + I = 1, 11    +
+           +------------+
+                 I
+
+            QSTION(I,QST,TEST) = QSTION(I,QST,TEST) + COUNT(I)
+
3000 ++++++++   CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
           *   (ANS.EQ.1)       *
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
      - I         0 I           + I
     -------     -------       -------
     I GOTO1600  I     I       I     I
     -------     -------       -------

                    I
     (CONTINUED ON PAGE  87)
```

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *    (NO.EQ.0)      *
         1 * .                 . * 1
         1     * .         . *     1
         1         * . *           I
       - I         0 I           + I
      -------     -------       -------
      I GOTO(600  I     I       I     I
      -------     -------       -------

                    I
            ----------------------------------------
            I RSELCT =RSELCT+1                     I
            ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *  (NO.EQ.NOPCH)     *
         1 * .                 . * 1
         1     * .         . *     1
         1         * . *           I
       - I         0 I           + I
      -------     -------       -------
      I RITE(IRITE+1      I       I     I
      -------     -------       -------

  500       CONTINUE
                    I
            ----------------------------------------
            I SELECT =SELECT+(NOPCH-NO)            I
            ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *   (RSP.NE.1)       *
         1 * .                 . * 1
         1     * .         . *     1
         1         * . *           I
       - I         0 I           + I
      -------     -------       -------
      I NOGRI=NOGRI+1     I       I     I
      -------     -------       -------

  600       CONTINUE
                    I
```

(CONTINUED ON PAGE 68)

```
                    I
            SWTCH(ONO) = NO
3200        CONTINUE
          GO TO(3200,3400,3600,3800,3400,4200,4400,4600,4800),TYP
3400        CONTINUE
                    I
          ----------------------------------------
          I C     =RITF                          I
          I Q     =HEADER(12,TEST)               I
          I GRADE=(C/Q)*100.0                    I
          ----------------------------------------
                    I
                    I
                 -------
                 I 5000I
                 -------


3600        CONTINUE
                    I
          ----------------------------------------
          I GRADE=0.0                            I
          ----------------------------------------
                    I

            DO 3700 QST = 1 , NCQST
                    I
          ----------------------------------------
          I QNO   =QST+17                        I
          I RSP   =RFPLY(QNO,POINTR)             I
          ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *   (RSP.NE.3)       *
         I * .                 . * I
         I     * .         . *     I
         I         * . *           I
       - I         0 I           + I
      -------     -------       -------
      I GOTO1640  I     I       I     I
      -------     -------       -------

                    I
          ----------------------------------------
          I GRADE=GRADE+10.0                     I
          ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 29)

```
                    I
                    I
                 -------
                 I 3700 I
                 -------

                    I
                    I
                 . *   * .
            . *    IF     * .
          *   (RSP.NE.5)      *
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
      - I         0 I           + I
     -------     -------       -------
     I GOTO(560  I     I       I     I
     -------     -------       -------

                    I
          ----------------------------------------
          I GRADE=GRADE+8.0                      I
          ----------------------------------------
                    I
                    I
                 -------
                 I 3700 I
                 -------

                    I
                    I
560              . *   * .
            . *    IF     * .
          *   (RSP.NE.9)      *
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
      - I         0 I           + I
     -------     -------       -------
     I GOTO(680  I     I       I     I
     -------     -------       -------

                    I
          ----------------------------------------
          I GRADE=GRADE+6.0                      I
          ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 90)

```
                    I
                    I
                 -------
                 I 3700I
                 -------

                    I
                    I
 500          . *   * .
            . *    IF     * .
          *   (RSP.EQ.17)      *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          * I
     -------      -------      -------
     I SPALI=GRADI+3.0 I      I     I
     -------      -------      -------

 700          CONTINUE
                    I
     ----------------------------------------
     I GRADE=GRADE/(HEADER(12,TEST))*10.0    I
     ----------------------------------------
                    I
                    I
                 -------
                 I 5000I
                 -------

 800          CONTINUE
                    I
     ----------------------------------------
     I C     =RSELCT                         I
     I Q     =HEADER(12,TEST)                I
     I H     =SELECT                         I
     I P     =HEADER(11,TEST)-Q              I
     I X     =C*(H/P)                        I
     I GRADE=(C-X)/Q*100.0                   I
     ----------------------------------------
                    I
                    I
                 -------
                 I 5000I
                 -------

 200          CONTINUE
                    I
```

(CONTINUED ON PAGE 91)

```
                I
        CONTINUE
        CONTINUE
        CONTINUE
        CONTINUE
        CONTINUE
                I
      ----------------------------------------
      I GRADE=0                                I
      ----------------------------------------
                I
        CONTINUE
                I
      ----------------------------------------
      I INTR =IROUND(GRADE)                    I
      ----------------------------------------
                I
                I
                I
            . *   * .
        . *    IF     * .
    *(INTR.GT.MAX(TEST))MAX(TEST)
    L * .                . * I
    I     * .        . *     I
    I         * . *          I
  - I         0 I          + I
-------     -------      -------
I =INTI     I     I      I     I
-------     -------      -------

                I
                I
            . *   * .
        . *    IF     * .
    *(INTR.LT.MIN(TEST))MIN(TEST)
    L * .                . * I
    I     * .        . *     I
    I         * . *          I
  - I         0 I          + I
-------     -------      -------
I =INTI     I     I      I     I
-------     -------      -------

        SAMPLE(TEST) = SAMPLE(TEST) + 1
        SUM( TEST ) = SUM( TEST) + GRADE
        SUMSQ( TEST) = SUMSQ( TEST) + ( GRADE * GRADE )
                I
```

(CONTINUED ON PAGE 92)

```
                    I
          ANSWER(TEST,STUDENT) = INTR
          SCRTCH(11) = INTR
                    I
       ----------------------------------------
       I IREC =((STUDENT-1)*DECKS)+TEST        I
       ----------------------------------------
                    I
   ***    WRITE(ISCRCH'IREC) SCRTCH
          DO 5500 QST = 1, NQST
                    I
       ----------------------------------------
       I QNO  =QST+17                          I
       ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(SCRTCH(QNO).LE.0) *
         I * .                 . * I
         I     * .         . *     I
         I         * . *           I
      - I          0 I           + I
     -------      -------       -------
     I GOTO1200   I     I       I     I
     -------      -------       -------

          QSTION(12,QST,TEST) = QSTION(12,QST,TEST) + INTR
          QSTION(14,QST,TEST) = QSTION(14,QST,TEST) + 1
                    I
                 -------
                 I 5500I
                 -------
                    ,—

1200      CONTINUE
          QSTION(13,QST,TEST) = QSTION(13,QST,TEST) + INTR
          QSTION(15,QST,TEST) = QSTION(15,QST,TEST) + 1
500       CONTINUE
                    I
       ----------------------------------------
       I POINTR =POINTR+1                      I
       ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 93)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     . .
           * (TEST.NE.DECKS)    *
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
      - I         0 I           + I
     -------     -------       -------
     I GOTO1250  I     I       I     I
     -------     -------       -------

                    I
                    I
                 . *   * .
              . *    IF     * .
           *(POINTR.GT.COUNTR) *
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
      - I         0 I           + I
     -------     -------       -------
     I GOTO1250  I     I       I     I
     -------     -------       -------

                    I
            ----------------------------------------
            I DO>7500 =POINTR,COUNTR                I
            I I     =REPLY(1,M)                     I
            I J     =REPLY(2,M)                     I
            I K     =REPLY(3,M)                     I
            I L     =REPLY(4,M)                     I
            ----------------------------------------
                    I

               CALL ERROR(PNAME,0,5,I,J,K,L)

1250           CONTINUE
                    I
                 -------
                 I 6250I
                 -------


 300           CONTINUE

               ANSWER(TEST,STDENT) = -999
                    I
            ----------------------------------------
            I IREC =((STDENT-1)*DECKS)+TEST         I
            ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 94)

```
                    I
      ***   WRITE(ISCRCH'IREC) MISSED

250         CONTINUE

500         CONTINUE

            DO 8000 TEST = 1, DECKS
                    I
          ----------------------------------------
          I R     =SAMPLE(TEST)                  I
          ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *    (N.LE.0)       *
         1 * .                . * 1
         1     * .         . *    1
         1          * . *         1
       - I          0 I         + I
       -------      -------     -------
       I GOTO1500   I     I     I     I
       -------      -------     -------

                    I
          ----------------------------------------
          I A     =SUM(TEST)                     I
          I G     =A/N                           I
          ----------------------------------------
                    I

            MEAN(TEST) = IROUND(G)
                    I
                    I
                 . *   * .
              . *    IF     * .
            *    (N.GT.1)       *
         1 * .                . * 1
         1     * .         . *    1
         1          * . *         1
       - I          0 I         + I
       -------      -------     -------
       I GOTO1000   I     I     I     I
       -------      -------     -------

            SDEV(TEST) = 0
                    I
```

(CONTINUED ON PAGE 95)

```
                    I
                    I
                 -------
                 I 6000I
                 -------

 300        CONTINUE
                    I
            ----------------------------------------
            I B     =A*A                           I
            I C     =N*SUMSQ(TEST)                 I
            I S     =B*(N-1)                       I
            I SS    =(C-B)/S                       I
            I SD    =SQRT(SS)                      I
            I SDEV(TEST) =IROUND(SD)               I
            ----------------------------------------
                    I
                    I
                 -------
                 I 8000I
                 -------

 500        CONTINUE
                    I
            ----------------------------------------
            I MEAN(TEST) =-999                     I
            I SDEV(TEST) =-999                     I
            I MAX(TEST) =-999                      I
            I MIN(TEST) =-999                      I
            ----------------------------------------
                    I

 900        CONTINUE

      ***   RETURN

            END

             SUBROUTINE PROC1(LESSON,DECKS, ANSWER , QSTION, REPLY,HEADER ,
             SAMPLE , SDEV, MEAN , MIN, MAX )

             COMMON/SYSTEM/NLESS,NDECK,NREX,NQUEST,NSTUD

             COMMON/FILES/IW1(2),IPRINT,IRESP,ISCRCH, IHEAD,IW2,IQUEST,
               ISTONT, ISCORE ,  IW3 ,  ISYS , IW4 , LISP,IW5

             INTEGER * 2 NAVY(65)

             INTEGER * 2 QRCORD(13), CATGRY

             EQUIVALENCE (CATGRY,QRCORD(13))
                    I
```

(CONTINUED ON PAGE 96)

```
                    I

            INTEGER *2 LPERM ,ABS(50),  PTRS(50) , HCARD(25,10) ,R - T ,
            WORCH,COUNT(11), SCRTCH(65)

           INTEGER PNAME(2),FLAG  , DECKS , TEST  , TYPE , STUEND,  C ST,
            SELECT, RSELCT , RLTF , WRONG , ERRNC2 , QST

            DATA PNAME/'PROC','ESS'/

            INTEGER * 2 REPLY(65,10) , QSTION(18,48,10) , ANSWER(10,185)  ,
            MEAN(60) , SDEV(60) ,SAMPLE(50),MAX(60) , MIN(60), AMS,  SP

      ***   REAL * 8       A , B , C , SUMSQ(10) , SUM(10)

            INTEGER ENDFIL , COUNTR, LRI , POINTR , QNO

            INTEGER * 2 MISSED

            DATA MISSED/-999/
                    I
         ----------------------------------------
         I INBOUND(I) =I+0.5                     I
         ----------------------------------------
                    I

      ***   READ(ISYS'2) LPERM
                    I
                    I
                 . *   * .
              . *     IF      * .
           *(LESSON.GT.0.AND.LESSON.LE.LPERM)
         I * .                  . * I
         I      * .          . *     I
         I           * . *          I
       - I           0 I          + I
      -------       -------      -------
      I GOTO100     I     I      I     I
      -------       -------      -------

                    I
         ----------------------------------------
         I I     =LESSON                         I
         I J     =LPERM                          I
         ----------------------------------------
                    I

            CALL ERROR(PNAME,0,1,I,J)

      ***   RETURN

200         CONTINUE

            CALL TAPSVC(LESSON,FLAG)
                    I
```

(CONTINUED ON PAGE 97)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *   (FLAG.NE.0)      *
         I * .                 . * I
         I      * .        . *     I
         I           * . *          I
       - I           0 I          + I
      -------       -------      -------
      I RETURN      I     I      I     I
      -------       -------      -------


         ***   READ(ISYS'3) PTRS

         ***   READ(ISYS'4) NOS
                    I
            ----------------------------------------
            I DECKS=NOS(LESSON)                     I
            I I1   =PTRS(LESSON)                    I
            I I2   =I1+NOS(LESSON)-1                I
            I J    =0                               I
            ----------------------------------------
                    I
                    I
               +------------+
              + DO           +
++++++++++   400              +
+           + I = I1 , I2   +
+            +------------+
+                   I
+                   I
+           ----------------------------------------
+           I J    =J+1                             I
+           ----------------------------------------
+                   I
+
+        ***   READ(IHEAD'I) (HEADER(K,J),K =1,65)
+                   I
+           ----------------------------------------
+           I NOQST=HEADER(13,J)                    I
+           I QNO  =HEADER(8,J)-1                   I
+           ----------------------------------------
+                   I
+
+              DO 300 QST = 1 , NOQST
+                   I
+           ----------------------------------------
+           I IREC =QNO+QST                         I
+           ----------------------------------------
+                   I
+
+        ***   READ(IQUEST'IREC) QRCORD
+                   I
```

(CONTINUED ON PAGE 98)

```
     +
     +                I
     +                I
     +                I
     +            . *   * .
     +        . *    IF     * .
     +      *  (CATGRY.GT.0)     *
     +    I * .                . * I
     +    I      * .        . *     I
     +    I          * . *          I
     +  - I          0 I           + I
     + -------      -------      -------
     + I GOTO125    I     I      I     I
     + -------      -------      -------
     +
     +
     +          QSTION(18,QST,J) = 1
     +                I
     +             -------
     +             I 300 I
     +             -------
     +
     +
     +
     +
 225 +          CONTINUE
     +                I
     +                I
     +            . *   * .
     +        . *    IF     * .
     +      *  (CATGRY.GT.4)     *
     +    I * .                . * I
     +    I      * .        . *     I
     +    I          * . *          I
     +  - I          0 I           + I
     + -------      -------      -------
     + I GOTO150    I     I      I     I
     + -------      -------      -------
     +
     +
     +          QSTION(18,QST,J) = CATGRY
     +                I
     +             -------
     +             I 300 I
     +             -------
     +
     +
     +
     +
 250 +          CONTINUE
     +
     +          QSTION(18,QST,J) = 1
     +
 300 +          CONTINUE
     +
 400 ++++++++   CONTINUE
                      I
```

(CONTINUED ON PAGE 99)

```
                    I
                    I
                +-----------+
               + DO         +
+++++++++++   500            +
+              + K = 1, 10   +
+               +-----------+
+                   I
+                   I
+               +-----------+
+              + DO         +
+++++++++++   600            +
+              + J = 1, 43   +
+               +-----------+
+                   I
+                   I
+               +-----------+
+              + DO         +
+++++++++++   600            +
+              + I = 1,17    +
+               +-----------+
+                   I
+
+               OSTIGN(I,J,K) = 0
+
500 ++++++++   CONTINUE
                    I
                +-----------+
               + DO         +
+++++++++++   700            +
+              + I = 1 , 10  +
+               +-----------+
+                   I
+                   I
+          ------------------------------------------
+          I SUMSQ(I) =0.0                          I
+          I SUM(I) =0.0                            I
+          ------------------------------------------
+                   I
+
700 ++++++++   CONTINUE
                    I
                +-----------+
               + DO         +
+++++++++++   800            +
+              + I = 1,60    +
+               +-----------+
+                   I
+                   I
+          ------------------------------------------
+          I MAX(I) =-1000                          I
+          I MIN(I) =10000                          I
+          I SDEV(I) =0                             I
+          I SAMPLE(I) =0                           I
+          I MEAN(I) =0                             I
+          ------------------------------------------
+                   I
+                   I
```

(CONTINUED ON PAGE 100)

```
+
+                    I
+
*** ++++++++    CONTINUE
                     I
            ----------------------------------------
            I READ(1,50)                           I
            ----------------------------------------
                     I
        ***    READ(1SYS'1) KOSTER
                     I
                     I
                  . *   * .
              . *     IF      * .
           *  (KOSTER.GT.0)     *
        1 * .                  . * 1
        1      * .         . *      1
        1           * . *           I
      - I           0 I           + I
     -------       -------       -------
     I SITJI50     I     I       I     I
     -------       -------       -------


                CALL ERROR(PNAME,0,6)

        ***     RETURN

850             CONTINUE

                DO 6500 STDENT = 1, KOSTER
                     I
                +------------+
               + DO           +
++++++++++    875             +
+             + I = 1,10      +
+              +------------+
+                    I
+
+               ANSWER(I,STDENT) = 0
+
875 ++++++++    CONTINUE
                     I
            ----------------------------------------
            I COUNTR =0                            I
            I LRI  =0                              I
            I POINTR =1                            I
            ----------------------------------------
                     I

                DO 6250 TEST = 1 , DECKS
                     I
```

(CONTINUED ON PAGE 101)

```
                    I
                    I
                    I
              . *   * .
          . *     IF      * .
       *(PTINTR.LE.COUNTR)  *
    I * .                 . * I
    I     * .         . *     I
    I         * . *           I
  - I         0 I           + I
-------     -------       -------
I GOTO500   I     I       I     I
-------     -------       -------

                    I
                    I
              . *   * .
          . *     IF      * .
       *  (ENDFIL.NE.0)      *
    I * .                 . * I
    I     * .         . *     I
    I         * . *           I
  - I         0 I           + I
-------     -------       -------
I GOTO1000  I     I       I     I
-------     -------       -------

                    I
                    I
              . *   * .
          . *     IF      * .
       *   (LRI.NE.0)        *
    I * .                 . * I
    I     * .         . *     I
    I         * . *           I
  - I         0 I           + I
-------     -------       -------
I GOTO1000  I     I       I     I
-------     -------       -------

          CALL TRDATA( STCENT , FLAG , LRI ,COUNTA, REPLY)
                    I
```

(CONTINUED ON PAGE 102)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF      * .
          *   (FLAG.NE.0)      *
       I * .                 . * I
       I     * .         . *     I
       I          * . *          I
    - I           0 I           + I
   -------      -------      -------
   I GOTOI000   I     I      I     I
   -------      -------      -------

                    I
            ----------------------------------------
            I PCINTR =1                            I
            ----------------------------------------
                    I
                    I
                 -------
                 I 1500I
                 -------


 900            CONTINUE

                GO TO(6000 ,1400 , 1200) , FLAG

1200            CONTINUE

        ***     RETURN

1400            CONTINUE
                    I
            ----------------------------------------
            I ENDFIL =1                            I
            ----------------------------------------
                    I
                    I
                 -------
                 I 6000I
                 -------


 500            CONTINUE
                    I
```

(CONTINUED ON PAGE 103)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
          *(REPLY(3,POINTR)-HEADER(3,TEST))
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
      - I         0 I           + I
      -------     -------       -------
      I 1700I     I 1600I       I 6000I
      -------     -------       -------

600         CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
          *(REPLY(4,POINTR)-HEADER(4,TEST))
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
      - I         0 I           + I
      -------     -------       -------
      I 1700I     I 1800I       I 6000I
      -------     -------       -------

700         CONTINUE
                    I
            ----------------------------------------
            I I     =REPLY(1,POINTR)                I
            I J     =REPLY(2,POINTR)                I
            I K     =REPLY(3,POINTR)                I
            I L     =REPLY(4,POINTR)                I
            ----------------------------------------
                    I
            CALL ERPOP(PNAME,0,5,I,J,K,L)
                    I
            ----------------------------------------
            I POINTR =POINTR+1                      I
            ----------------------------------------
                    I
                    I
                 -------
                 I 900 I
                 -------

800         CONTINUE
                    I
            ----------------------------------------
            I TYPE =HEADER(1,TEST)                  I
            ----------------------------------------
                    I
```

(CONTINUED ON PAGE 104)

```
                    I
          NUQST=HEADER(10,TEST)

             DO 2000  I  = 1 , 17
                    I
          ----------------------------------------
          I SCRTCH(I) =REPLY(I,PCINTR)            I
          I NAVY(I) =SCRTCH(I)                    I
          ----------------------------------------
                    I

2000         CONTINUE
                    I
          ----------------------------------------
          I DIVDND =0.0                           I
          I VALUE=0.0                             I
          I NORIT=0                               I
          ----------------------------------------
                    I

             DO 3000 QST = 1, NUQST
                    I
          ----------------------------------------
          I QNO  =QST+17                          I
          I ANS  =HEADER(QNO,TEST)                I
          I RSP  =REPLY(QNO,PCINTR)               I
          I NO   =IPASS(ANS,RSP,NORCH,CFUN)       I
          ----------------------------------------
                    I

             SCRTCH(QNO) = NO
                    I
             +------------+
            + DO          +
++++++++++  2100           +
+          + I = 1, 11    +
+           +------------+
+                  I
+
+           QSTION(I,QST,TEST) = QSTION(I,QST,TEST) + COUNT(I)
+
3000 ++++++++   CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
            *   (ANS.EQ.1)      *
         1 * .                . * 1
         I     * .        . *     1
         1         * . *         I
       - I         C I          + I
      -------     -------      -------
      I GOTO1000  I     I      I     I
      -------     -------      -------

                    I
      (CONTINUED ON PAGE 105)
```

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *   (TYPE.EQ.1)      *
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
     - I          0 I           + I
     -------      -------       -------
     I GOTOI200   I     I       I     I
     -------      -------       -------

                    I
              ----------------------------------------
              I MOVY(POS) =NOPCH                     I
              ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *   (TYPE.NE.4)      *
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
     - I          0 I           + I
     -------      -------       -------
     I GOTOI200   I     I       I     I
     -------      -------       -------

                    I
                    I
                 . *   * .
              . *    IF     * .
           *   (PSP.EQ.1)       *
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
     - I          0 I           + I
     -------      -------       -------
     I GOTOI000   I     I       I     I
     -------      -------       -------

200            CONTINUE
                    I
              ----------------------------------------
              I GSUBI=QSTION(I8,QST,TEST)            -I
              I DIVOND =DIVOND+GSUBI                 .I
              ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 106)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *  (NO.EQ.NOPCH)    *
         I * .                 . * I
         I     * .         . *     I
         I         * . *           I
       - I         0 I           + I
      -------     -------       -------
      I GOTO 1000 I     I       I     I
      -------     -------       -------

                    I
            ----------------------------------------
            I NAVY(2NO) =-NOPCH                    I
            ----------------------------------------
                    I
                    I
                 -------
                 I 3000I
                 -------


1000          CONTINUE
                    I
            ----------------------------------------
            I VALUE=VALUE+GSUPI                    I
            ----------------------------------------
                    I
                    I
                 -------
                 I 3000I
                 -------


                 CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
            *  (NO.EQ.NOPCH)    *
         I * .                 . * I
         I     * .         . *     I
         I         * . *           I
       - I         0 I           + I
      -------     -------       -------
      I NORII=NORII+1   I       I     I
      -------     -------       -------

                    I
```

(CONTINUED ON PAGE 107)

```
                    I
 200          CONTINUE
          GO TO(3200,3400,3600,3800,5400,4200,4400,4600,4800),TYP
 200          CONTINUE
                    I
          ----------------------------------------
          I T     =HEADER(12,TEST)                I
          I GRADE=(NORIT/T)*100.0                 I
          ----------------------------------------
                    I
                    I
                 -------
                 I 5000I
                 -------


 400          CONTINUE
                    I
          ----------------------------------------
          I GRADE=(VALUE/DIVIND)*100.0            I
          ----------------------------------------
                    I
                    I
                 -------
                 I 5000I
                 -------


 800          CONTINUE
                    I
          ----------------------------------------
          I GRADE=(VALUE/DIVDND)*100.0            I
          ----------------------------------------
                    I
                    I
                 -------
                 I 5000I
                 -------


 200          CONTINUE
                    I
          ----------------------------------------
          I GRADE=(VALUE/DIVDND)*100.0            I
          ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 108)

```
                    I
                    I
                 -------
                 I 50001
                 -------

 100          CONTINUE
                    I
          ------------------------------------------
          I GRADE=(VALUE/DIVDNO)*100.0              I
          ------------------------------------------
                    I
                    I
                 -------
                 I 50001
                 -------

 500          CONTINUE

 600          CONTINUE

 700          CONTINUE

 800          CONTINUE
                    I
          ------------------------------------------
          I GRADE=0                                 I
          ------------------------------------------
                    I

 900          CONTINUE
                    I
          ------------------------------------------
          I INTR =IROUND(GRADE)                     I
          I NAVY(11) =INTR                          I
          ------------------------------------------
                    I

     ***    WRITE(LISP) NAVY
                    I
```

(CONTINUED ON PAGE 109)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
          *(INTR.GT.MAX(TEST))MAX(TEST)
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
     -------      -------      -------
     I =INTI      I     I      I     I
     -------      -------      -------

                    I
                    I
                 . *   * .
              . *    IF     * .
          *(INTR.LT.MIN(TEST))MIN(TEST)
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
     -------      -------      -------
     I =INTI      I     I      I     I
     -------      -------      -------

            SAMPLE(TEST) = SAMPLE(TEST) + 1

            SUM( TEST ) = SUM( TEST) + GRADE

            SUMSQ( TEST) = SUMSQ( TEST) + ( GRADE * GRADE )

            ANSWER(TEST,STDENT) = INTR

            SCRTCH(11) = INTR
                  I
         ----------------------------------------
         I IREC =((STDENT-1)*DECKS)+TEST         I
         ----------------------------------------
                  I

   ***      WRITE(ISCRCH'IREC) SCRTCH

            DO 5500 QST = 1, NOQST
                  I
         ----------------------------------------
         I QNO  =QST+17                          I
         ----------------------------------------
                  I
                  I
```

(CONTINUED ON PAGE 110)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(SCATCH(2N).LE.0) *
        I * .                 . * I
        I      * .        . *     I
        I          * . *          I
     - I           0 I           + I
   -------       -------       -------
   I GOTO(200)   I     I       I     I
   -------       -------       -------

            QSTION(12,QST,TEST) = QSTION(12,QST,TEST) + 1

            QSTION(14,QST,TEST) = QSTION(14,QST,TEST) + 1
                    I
                 -------
                 I 5500I
                 -------


200         CONTINUE

            QSTION(13,QST,TEST) = QSTION(13,QST,TEST) + INTR

            QSTION(15,QST,TEST) = QSTION(15,QST,TEST) + 1

500         CONTINUE
                    I
          ----------------------------------------
          I POINTR =POINTR+1                      I
          ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           * (TEST.NE.DECKS)    *
        I * .                 . * I
        I      * .        . *     I
        I          * . *          I
     - I           0 I           + I
   -------       -------       -------
   I GOTO1250    I     I       I     I
   -------       -------       -------

                    I
```

(CONTINUED ON PAGE 111)

```
                    I
                    I
                    I
                 . /   * .
              . *    IF     * .
           *(POINTR.GT.COUNTR) *
         I * .                 . * I
         I     * .         . *     I
         I          * . *          I
       - I          C I          + I
       -------      -------      -------
       I GOTO1250   I     I      I     I
       -------      -------      -------

                    I
            ----------------------------------------
            I DO750M =POINTR,COUNTR                 I
            I I     =REPLY(1,M)                     I
            I J     =REPLY(2,M)                     I
            I K     =REPLY(3,M)                     I
            I L     =REPLY(4,M)                     I
            ----------------------------------------
                    I

               CALL SRPOR(PNAME,0,5,I,J,K,L)

750            CONTINUE
                    I
                 -------
                 I 6750I
                 -------


300            CONTINUE

               ANSWER(TEST,STDENT) = -999
                    I
            ----------------------------------------
            I IREC =((STUDENT-1)*DECKS)+TEST        I
            ----------------------------------------
                    I

         ***   WRITE(ISCRCH'IREC) MISSED

6250           CONTINUE

 600           CONTINUE

               DO 8000 TEST = 1, DECKS
                    I
            ----------------------------------------
            I M     =SAMPLE(TEST)                   I
            ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 112)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *    (N.LT.0)       *
          I * .                 . * I
          I     * .         . *     I
          I         * . *           I
       - I          0 I           + I
      -------      -------       -------
      I GOTO1000   I     I       I     I
      -------      -------       -------

                    I
          ----------------------------------------
          I A     =SUM(TEST)                     I
          I G     =A/N                           I
          ----------------------------------------
                    I

             MEAN(TEST) = IROUND(G)
                    I
                    I
                 . *   * .
              . *    IF     * .
            *    (N.GT.1)       *
          I * .                 . * I
          I     * .         . *     I
          I         * . *           I
       - I          0 I           + I
      -------      -------       -------
      I GOTO1000   I     I       I     I
      -------      -------       -------

             SDEV(TEST) = 0
                    I
                 -------
                 I 8000I
                 -------

1000         CONTINUE
                    I
          ----------------------------------------
          I B     =A*A                           I
          I C     =N*SUMSQ(TEST)                 I
          I S     =N*(N-1)                       I
          I SS    =(C-B)/S                       I
          I SD    =SQRT(SS)                      I
          I SDEV(TEST) =IROUND(SD)               I
          ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 113)

```
                    I
                    I
                 -------
                 I 6000I
                 -------

1000          CONTINUE
                    I
            ----------------------------------------
            I MEAN(TEST) =-999                      I
            I SDEV(TEST) =-999                      I
            I MAX(TEST) =-999                       I
            I MIN(TEST) =-999                       I
            ----------------------------------------
                    I
1000          CONTINUE

        ***    REWIND LISP

        ***   RETURN

              END

               SUBROUTINE TAPSVC(LESSON,FLAG)

               COMMON/FILES/IW(3),ITAPE,IW1(11)

               INTEGER ENDFIL, RDFLAG , RCOUNT, FLAG, CHUNT, STUDNT

               INTEGER * 2  SDRT(4), RSPONS(65) , REPLY(65,10)

               INTEGER PNAME(2)

               DATA PNAME/'PROC','ESS'/

        ***    REWIND ITAPE
                    I
            ----------------------------------------
            I ENDFIL =0                             I
            ----------------------------------------
                    I
                    I
               +------------+
              + 00           +
++++++++++   100              +
+           + I = 1,4        +
+            +------------+
+                   I
+                   I
+           ----------------------------------------
+           I SDRT(1) =0                            I
+           ----------------------------------------
+                   I
+                   I
```

(CONTINUED ON PAGE 114)

```
+
+                    I
+
+++++++++   CONTINUE
                     I
           ----------------------------------------
           I RDFLAG =0                              I
           I RCOUNT =0                              I
           I LESS =LESSON                           I
           ----------------------------------------
                     I

      ***   REWIND ITAPE

      ***   READ(ITAPE,100=1000) RSPONS
                     I
           ----------------------------------------
           I RCOUNT =RCOUNT+1                       I
           ----------------------------------------
                     I
                     I
              +------------+
             + DO            +
++++++++++   700              +
+          + I = 1 , 4       +
+           +------------+
+                    I
+                    I
+                    I
+                 . *   * .
+             . *    IF     * .
+         *(SQRT(I)-RSPONS(I))*
+     1 * .                    . * 1
+     1       * .          . *     1
+     1            * . *           I
+   - I            0 I           + I
+ -------        -------       -------
+ I 800 I        I 700 I       I 500 I
+ -------        -------       -------
+
+
+ 800 +             CONTINUE
+                    I
+           ----------------------------------------
+           I J     =SQRT(I)                         I
+           I K     =RSPONS(I)                       I
+           ----------------------------------------
+                    I
+
+             CALL ERROR(PNAME,0,2,RCOUNT,I,J,K)
+                    I
+           ----------------------------------------
+           I FLAG =2                                I
+           ----------------------------------------
+                    I
+
+       ***   RETURN
+                    I
```

(CONTINUED ON PAGE 116)

```
*** PRINT ERROR MESSAGE *** [illegible]
+
+                    I
+
700 ++++++++      WRITE
                     I
            ----------------------------------------
            I I      =RSPONS(2)                    I
            I J      =RSPONS(3)                    I
            I K      =RSPONS(4)                    I
            ----------------------------------------
                     I
                     I
               CALL JREER(PARAM,0,3,RCOUNT,I,J,K)
                     I
            ----------------------------------------
            I FLAG =2                              I
            ----------------------------------------
                     I

        ***    RETURN

800                CONTINUE
                     I
                  +------------+
                + DO           +
++++++++++        800          *
+               + J = I,4      +
+                +------------+
+                    I
+                    I
+           ----------------------------------------
+           I SCRT(J) =RSPONS(J)                   I
+           ----------------------------------------
+                    I
+
900 ++++++++      CONTINUE
                     I
                     I
                  . *   * .
               . *    IF     * .
            *(RSPONS(1)-LESSUN) *
          I * .                 . * I
          I      * .        . *     I
          I          * . *          I
        - I          0 I          + I
       -------      -------      -------
       I 500 I      I 950 I      I 1000I
       -------      -------      -------


950                CONTINUE
                     I
```

(CONTINUED ON PAGE 116)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *(RSPONS(2).EQ.0)    *
         I * .                 . * I
         I     * .         . *     I
         I         * . *           I
      - I          0 I           + I
      -------      -------       -------
      I CONTINUE   I     I       I     I
      -------      -------       -------

                    I
            ----------------------------------------
            I FLAG =0                              I
            ----------------------------------------
                    I

        ***    RETURN

  300       CONTINUE
                    I
            ----------------------------------------
            I ENDFIL =1                            I
            ----------------------------------------
                    I

        ***    REWIND ITAPE
                    I
            ----------------------------------------
            I I     =LESSON                        I
            I J     =SORT(I)                       I
            ----------------------------------------
                    I

               CALL ERROR(PNAME,3,4,I,J)
                    I
            ----------------------------------------
            I FLAG =1                              I
            ----------------------------------------
                    I

        ***    RETURN

               ENTRY TPDATA(STUDNT,FLAG,LCI,COUNT,REPLY)
                    I
            ----------------------------------------
            I COUNT=0                              I
            I LCI  =0                              I
            I FLAG =0                              I
            ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 117)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *  (I .GT.IL.AND.J)    *
          I * .                 . * I
          I     * .         . *     I
          I         * . *           I
        - I         0 I           + I
       -------     -------       -------
       I GOTO(900) I     I       I     I
       -------     -------       -------

900          CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
            *  (RDFLAG.EQ.0)    *
          I * .                 . * I
          I     * .         . *     I
          I         * . *           I
        - I         0 I           + I
       -------     -------       -------
       I GOTO(100) I     I       I     I
       -------     -------       -------

   ***   READ(ITAPE,END=8000) RSPONS
                    I
                    I
                 . *   * .
              . *    IF     * .
            *(RSPONS(I).NE.LESS)*
          I * .                 . * I
          I     * .         . *     I
          I         * . *           I
        - I         0 I           + I
       -------     -------       -------
       I GOTO(800) I     I       I     I
       -------     -------       -------

                    I
            ---------------------------------------
            I RCOUNT =RCOUNT+1                    I
            ---------------------------------------
                    I
                    I
                 +-----------+
               + 33          +
++++++++++  2200              +
+            + I = 1,4        +
+             +-----------+
+                   I
+                   I
```

(CONTINUED ON PAGE 113)

```
+
+                I
+                I
+                I
+            . *   * .
+         . *     IF     * .
+      *(SORT(I)-RSPONS(I))*
+    I * .                . * I
+    I      * .        . *     I
+    I          * . *          I
+  - I          * I          + I
+ -------      -------      -------
+ I 2300I      I 2200I      I 2100I
+ -------      -------      -------
+
+
2100 +          CONTINUE
+                I
+       ----------------------------------------
+       I J     =SORT(I)                        I
+       I K     =RSPONS(I)                      I
+       ----------------------------------------
+                I
+
+          CALL ERROR(PNAME,0,2,RCOUNT,I,J,K)
+                I
+       ----------------------------------------
+       I FLAG =3                               I
+       ----------------------------------------
+                I
+
+    ***   RETURN
+
2200 ++++++++   CONTINUE
                 I
            ----  ---------------------------
            I I     =RSPONS(2)                I
            I J     =RSPONS(3)                I
            I K     =RSPONS(4)                I
            ----------------------------------
                     I

               CALL ERROR(PNAME,0,3,RCOUNT,I,J,K)
                     I
            ----------------------------------
            I FLAG =3                        I
            ----------------------------------
                     I

        ***   RETURN

300             CONTINUE
                     I
```

(CONTINUED ON PAGE 119)

```
                    I
                    I
                 +-----------+
                + DO          +
      +++++++++  2400          +
      +         + J = I, 4     +
      +          +-----------+
      +                I
      +                I
      +        ----------------------------------------
      +        I SQRT(J) =RSPONS(J)                   I
      +        ----------------------------------------
      +                I
      +
  400 ++++++++   CONTINUE

 3000            CONTINUE
                       I
               ----------------------------------------
               I RDFLAG =1                            I
               ----------------------------------------
                       I
                       I
                       I
                    . *   * .
                 . *    II     * .
               *(RSPONS(2)-STUDNT) *
             L * .                 . * L
             I     * .         . *     I
             I          * . *          I
          - I           0 I           + I
          -------      -------      -------
          I 2200I      I 4000I      I 3900I
          -------      -------      -------

                       I
               ----------------------------------------
 3200          I I     =RSPONS(2)                     I
               I J     =RSPONS(3)                     I
               I K     =RSPONS(4)                     I
               I L     =RSPONS(1)                     I
               ----------------------------------------
                       I

                  CALL ERROR(PNAME,0,5,L,I,J,K)
                       I
                    -------
                    I 2000I
                    -------


 3500             CONTINUE
                       I
               ----------------------------------------
               I RDFLAG =0                            I
               ----------------------------------------
                       I
```

(CONTINUED ON PAGE 120)

```
                    I
          LCI=1
                    I
                    I
                 . *   * .
            . *    IF     * .
          *  (COUNT.NE.0)     *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
     -------      -------      -------
     I SETUP      I     I      I     I
     -------      -------      -------

                    I
          ----------------------------------------
          I FLAG =1                              I
          ----------------------------------------
                    I

        ***   RETURN

 900            CONTINUE
                    I
                    I
                 . *   * .
            . *    IF     * .
          *  (COUNT.LT.10)    *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
     -------      -------      -------
     I GOTO1500   I     I      I     I
     -------      -------      -------

                    I
          ----------------------------------------
          I LCI  =0                              I
          I RDFLAG =0                            I
          ----------------------------------------
                    I

        ***   RETURN
                    I
          ----------------------------------------
 500      I COUNT=COUNT+1                        I
          ----------------------------------------
                    I
                    I
                 +------------+
                + DO           +
     ++++++++++  5000           +
     +          + I = 1, 65     +
     +           +------------+
     +                I
     +                I
```

(CONTINUED ON PAGE 121)

```
+
+                    I
+
+     ***    REPLY(I,COUNT) = [illegible](I)
+
100 ++++++++    CONTINUE
                     I
                 -------
                 I 3000I
                 -------
```

```
3000            CONTINUE
                     I
          ----------------------------------------
          I CMDFIL =1                            I
          ----------------------------------------
                     I
                     I
                     I
                  . *   * .
              . *    IF     * .
            *  (COUNT.EQ.0)      *
        I  * .                 . * I
        I      * .         . *     I
        I          * . *           I
      - I          * I           + I
     -------      -------       -------
     I GOTO1000   I     I       I     I
     -------      -------       -------

                     I
          ----------------------------------------
          I LCI  =1                              I
          ----------------------------------------
                     I
     ***    REWIND ITAPE

     ***    RETURN

100            CONTINUE
                     I
          ----------------------------------------
          I LCI  =1                              I
          I FLAG =2                              I
          ----------------------------------------
                     I

     ***    REWIND ITAPE

     ***    RETURN

            END
                     I
```

(CONTINUED ON PAGE 122)

```
                    I
              SUBROUTINE PROC2(LESSON,DECKS, ANSWER , SECOND , CASTIN ,
              SAMPLE , SDEV, MEAN , MIN, MAX )

        ***   REAL * 2 SUM(20) , SUMSQ(20) , A , B , C

              INTEGER * 2  ANSWER(10,150) , SECOND(10,150) , CASTIN(10,50,10)
             , SAMPLE(60) , SDEV(60) , MEAN(60) , MIN(60) , MAX(60)

              INTEGER * 2 RECORD(65) , TABLE(2,10) ,PTRS(50) , IDENT(5)

            COMMON/SYSTEM/NLESS,NDECK,MREX,NOUTST,NSTUD

              COMMON/FILES/ IW1(4), ISCRCH , IHEAD, IW2 , IOUTST ,
              ISTDAT , ISCORE , IW3, ISYS , IW4(3)

              INTEGER * 2  CARIN , ROSTER

              EQUIVALENCE(CARIN,RECORD(25))

              INTEGER DECKS , STDEST , TEST , CAO, CST ,AVG , AVG2
                    I
              +------------+
             + DO            +
+++++++++   250            +
+           + I = 1,20      +
+            +------------+
+                  I
+                  I
+        ----------------------------------------
+        I SUM(I) =0.0                           I
+        I SUMSQ(I) =0.0                         I
+        ----------------------------------------
+                  I
+
 250 ++++++++   CONTINUE

        ***   READ(ISYS'3) PTRS
                    I
         ----------------------------------------
         I J     =PTRS(LESSON)                   I
         ----------------------------------------
                    I
                    I
              +------------+
             + DO            +
+++++++++   500            +
+           + I = 1 , DECKS+
+            +------------+
+                  I
+
+     ***   READ(IHEAD'J) RECORD
+
+           TABLE(1,I) = RECORD(8)
+
+           TABLE(2,I) = RECORD(13)
+                  I
```

(CONTINUED ON PAGE 123)

```
*
*                    I
*
750 ********   CONTINUE

      ***      READ(ISYSIN,L) COUNTER

               DO 3000 STOPNT = 1, COUNTER
                    I
               +------------+
             + DO           +
+++++++++++    750           +
*            + I = 1,10      +
*              +------------+
*                    I
*
*              SECOND(I,STOPNT) = 0
*
750 ********   CONTINUE

      ***      READ(ISTORAT,STOPNT) RECORD

               SECOND(I,STOPNT) = CAPIN
                    I
                    I
                 . *   * .
             . *    IF     * .
           * (CAPIN.EQ.-999)    *
         I * .                . * I
         I      * .        . *     I
         I          * . *          I
       - I          C I          + I
      -------      -------      -------
      I GOTO1000   I     I      I     I
      -------      -------      -------


               SAMPLE(II) = SAMPLE(II) + 1
                    I
            ----------------------------------------
            I SUM(II) =SUM(II)+CAPIN                I
            I SUMSQ(II) =SUMSQ(II)+(CAPIN*CAPIN)    I
            ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 124)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
          *(CAPIN.GT.MAX(II))MAX(II)
        I * .                 . * I
        I      * .         . *    I
        I          * . *          I
      - I          0 I          + I
      -------      -------      -------
      I =CAPIN     I     I      I     I
      -------      -------      -------

                    I
                    I
                 . *   * .
              . *    IF     * .
          *(CAPIN.LT.MIN(II))MIN(II)
        I * .                 . * I
        I      * .         . *    I
        I          * . *          I
      - I          0 I          + I
      -------      -------      -------
      I =CAPIN     I     I      I     I
      -------      -------      -------

900           CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
          *(ANSWER(1,STDENT).NE.-999.AND.ANSWER(2,STDENT).NE.-999)
        I * .                 . * I
        I      * .         . *    I
        I          * . *          I
      - I          0 I          + I
      -------      -------      -------
      I GOTO1200   I     I      I     I
      -------      -------      -------

            SECOND(2,STDENT) = -999

            SECOND(3,STDENT) = -999
                    I
                 -------
                 I 1500I
                 -------


                    I
            ----------------------------------------
200         I A     =ANSWER(1,STDENT)              I
            ----------------------------------------
                    I
```

(CONTINUED ON PAGE 125)

```
                    I
          GRADE=(4+ANSWER(2,STUDENT))/2.0
                    I
          ----------------------------------------
          I INTER=INDEXN(GRADE)                   I
          ----------------------------------------
                    I

             SECRNG(2,STUDENT) = INTER

             SAMPLE(12) = SAMPLE(12) + 1
                    I
          ----------------------------------------
          I SUM(12) =SUM(12)+GRADE                I
          I SUMSQ(12) =SUMSQ(12)+(GRADE*GRADE)    I
          ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(INTER.LT.MIN(12))MIN(12)
        I * .                 . * I
        I      * .        . *     I
        I          * . *          I
     - I           0 I           + I
    -------       -------       -------
    I =INTER      I     I       I     I
    -------       -------       -------

                    I
                    I
                 . *   * .
              . *    IF     * .
           *(INTER.GT.MAX(12))MAX(12)
        I * .                 . * I
        I      * .        . *     I
        I          * . *          I
     - I           0 I           + I
    -------       -------       -------
    I =INTER      I     I       I     I
    -------       -------       -------

                    I
```

(CONTINUED ON PAGE 126)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF      .
           * (CAPIN.NE.-999)   *
        1 * .                 . * 1
        I     * .         . *     I
        I         * . *           I
     - I          0 I           + I
  -------      -------       -------
  I GATE(40)   I     I       I     I
  -------      -------       -------

            SECOND(3,STDENT) = -999
                    I
                 -------
                 I 1500I
                 -------


+00             CONTINUE
                    I
            ----------------------------------------
            I GRADE=GRADE-CAPIN                     I
            I INTER=IRDUND(GRADE)                   I
            ----------------------------------------
                    I

               SECOND(3,STDENT) = INTER

               SAMPLE(13) = SAMPLE(13) + 1
                    I
            ----------------------------------------
            I SUM(13) =SUM(13)+GRADE                I
            I SUMSQ(13) =SUMSQ(13)+(GRADE*GRADE)    I
            ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF      * .
           *(INTER.LT.MIN(13))MIN(13)
        1 * .                 . * 1
        I     * .         . *     I
        I         * . *           I
     - I          0 I           + I
  -------      -------       -------
  I =INTER     I     I       I     I
  -------      -------       -------

                    I
```

(CONTINUED ON PAGE 127)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
          *(INTER.GT.MAX(13)INDEX(13)
        I * .                  . * I
        I      * .        . *      I
        I          * . *           I
      - I          0 I           + I
     -------      -------       -------
     I SETIN      I     I       I     I
     -------      -------       -------


-500            CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
          *(ANSWER(3,STUDENT).NE.-999.AND.ANSWER(4,STUDENT).NE.-999)
        I * .                  . * I
        I      * .        . *      I
        I          * . *           I
      - I          0 I           + I
     -------      -------       -------
     I GOTO1700   I     I       I     I
     -------      -------       -------


            SECOND(5,STUDENT) = -999

            SECOND(6,STUDENT) = -999
                    I
                 -------
                 I 20001
                 -------


-600        CONTINUE
                    I
          ----------------------------------------
          I A     =ANSWER(3,STUDENT)               I
          I GRADE=((3.0*A)+ANSWER(4,STUDENT))      I
          I INTER=INGOND(GRADE)                    I
          ----------------------------------------
                    I

            SECOND(5,STUDENT) = INTER

            SAMPLE(15) = SAMPLE(15) + 1
                    I
          ----------------------------------------
          I SUM(15) =SUM(15)+GRADE                 I
          ----------------------------------------
                    I
```

```
*   P   ***(*)(I) (EQUAL  ****  .I. .S. VERSION II   ****

                    I
        SCORE(15)=UNSCO(15)+(SCORE*SCORE)
                    I
                    I
                  . * .
              . *   IF    * .
        *(INTER.LT.MIN(15))MIN(15)
      ! * .                 . * !
      !     * .         . *     !
      !         * . *           !
    - !         0 I           + !
-------       -------       -------
I SETMIN      I     I       I     I
-------       -------       -------

                    I
                    I
                  . * .
              . *   IF    * .
        *(INTER.GT.MAX(15))MAX(15)
      ! * .                 . * !
      !     * .         . *     !
      !         * . *           !
    - !         0 I           + !
-------       -------       -------
I =INTER      I     I       I     I
-------       -------       -------

                    I
                    I
                  . * .
              . *   IF    * .
        * (CAPIN.NE.-999)    *
      ! * .                 . * !
      !     * .         . *     !
      !         * . *           !
    - !         0 I           + !
-------       -------       -------
I GOTO1900    I     I       I     I
-------       -------       -------

            SCORE(6,STDENT) = -999
                    I
                -------
                I 2000I
                -------


900         CONTINUE
                    I
        ----------------------------------------
        I GRADE=GRADE-CAPIN                    I
        ----------------------------------------
                    I
(CONTINUED ON PAGE 129)
```

```
                    I
          INTER=IRNDR(GRADE)

             SCORE(6,STDENT) = INTER

             SAMPLE(16) = SAMPLE(16) + 1
                    I
          ----------------------------------------
          I SUM(16) =SUM(16)+GRADE                 I
          I SUMSQ(16) =SUMSQ(16)+(GRADE*GRADE)     I
          ----------------------------------------
                    I
                    I
                    I
              . *   * .
          . *    IF     * .
        *(INTER.LT.MIN(16))MIN(16)
      1 * .                  . * 1
      1      * .         . *     1
      1          * . *           1
    - 1          0 I           + 1
  -------      -------       -------
  I =INTIR     I     I       I     I
  -------      -------       -------

                    I
                    I
              . *   * .
          . *    IF     * .
        *(INTER.GT.MAX(16))MAX(16)
      1 * .                  . * 1
      1      * .         . *     1
      1          * . *           1
    - 1          0 I           + 1
  -------      -------       -------
  I =INTIR     I     I       I     I
  -------      -------       -------

 2000         CONTINUE

              DO 2600 TEST = 1 , DECKS
                    I
```

(CONTINUED ON PAGE 130)

```
*** P [illegible] LOGIC MODAL *** A.[illegible] [illegible]

                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(ANS[illegible](ISST,STDENT).LT. LAB(TEST))
          I * .                 . * I
          I     * .         . *     I
          I          * . *          I
        - I          0 I          + I
        -------      -------      -------
        I GOTO1300   I     I       I     I
        -------      -------      -------

                    I
          ----------------------------------------
          I IREC =((STDENT-1)*SECRS)+TEST          I
          ----------------------------------------
                    I

      ***   READ(ISCRCH'IREC) RECORD
                    I
          ----------------------------------------
          I NUM  =TABLE(2,TEST)                    I
          ----------------------------------------
                    I

             DO 2500 GND = 1,NUM
                    I
          ----------------------------------------
          I OST  =GND+17                           I
          ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(RECORD(OST).LT.1) *
          I * .                 . * I
          I     * .         . *     I
          I          * . *          I
        - I          0 I          + I
        -------      -------      -------
        I OGTO1250   I     I       I     I
        -------      -------      -------

             QSTION(16,GND,TEST) = QSTION(16,GND,TEST) + 1
                    I
                 -------
                 I 2500I
                 -------


                    I
```

(CONTINUED ON PAGE 131)

```
                    I
 200          CONTINUE
              QSTION(17,JNO,TEST) = QSTION(17,JNO,TEST) + 1
 500          CONTINUE
 600          CONTINUE
 3000         CONTINUE
                    I
                    I
                 . *   * .
              . *    IF    * .
           *(SAMPLE(13).GT.0)   *
        I * .                 . * I
        I      * .        . *     I
        I          * . *          I
      - I          * I          + I
     -------      -------      -------
     I GETC1000   I     I      I     I
     -------      -------      -------

                    I
              +------------+
             + DO            +
+++++++++++  3500             +
+            + I = 1,ROSTER  +
             +------------+
+                   I
+
+            SECOND(4,I) = - 262
+
 3500 ++++++++   CONTINUE
                    I
                 -------
                 I 5100I
                 -------

 300          CONTINUE
                    I
           ----------------------------------------
           I GRADE=SUM(13)/SAMPLE(13)               I
           I AVG  =IROUND(GRADE)                    I
           ----------------------------------------
                    I

              DO 5000 STDENT = 1,ROSTER
                    I
```

(CONTINUED ON PAGE 132)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
          *(SECOND(4,STUDENT).NE.-999)
        I * .                  . * I
        I      * .          . *     I
        I           * . *          I
     - I            0 I          + I
  -------        -------      -------
  I GOTO150G     I     I      I     I
  -------        -------      -------

              SECOND(4,STUDENT) = -999
                    I
                 -------
                 I 500CI
                 -------
```

```
500             CONTINUE
                    I
            ------------------------------------------
            I GRADE=SECOND(3,STUDENT)-AVG              I
            I INTER=IROUND(GRADE)                      I
            ------------------------------------------
                    I

               SECOND(4,STUDENT) = INTER

               SAMPLE(14) = SAMPLE(14) + 1
                    I
            ------------------------------------------
            I SUM(14) =SUM(14)+GRADE                   I
            I SUMSQ(14) =SUMSQ(14)+(GRADE*GRADE)       I
            ------------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
          *(INTER.LT.MIN(14))MIN(14)
        I * .                  . * I
        I      * .          . *     I
        I           * . *          I
     - I            0 I          + I
  -------        -------      -------
  I =INTER       I     I      I     I
  -------        -------      -------

                    I
```

(CONTINUED ON PAGE 133)

```
                    I
                    I
                    I
                 . * * .
              . *   IF   * .
           *(INTER.GT.MAX(14))MAX(14)
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
     - I          0 I          + I
     -------      -------      -------
     I =I-71      I     I      I     I
     -------      -------      -------

7000            CONTINUE

5100            CONTINUE
                    I
                    I
                 . * * .
              . *   IF   * .
           *(SAMPLE(16).GT.0)  *
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
     - I          0 I          + I
     -------      -------      -------
     I GOTO1000   I     I      I     I
     -------      -------      -------

                    I
              +------------+
              + DO         +
+++++++++++   5500         +
+             + I = 1,POSTER +
+             +------------+
+                   I
+
+             SECOND(7,I) = -888
+
00 ++++++++   CONTINUE
                    I
                 -------
                 I 71001
                 -------


000             CONTINUE
                    I
           ------ ----------------------------------
           I GRADE=SUM(16)/SAMPLE(16)                I
           I AVG   =IROUND(GRADE)                    I
           ------------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 1.6)

```
                    I
                    I
            DO 7000 STUDENT = 1,NCOUNT
                    I
                    I
                 . *   * .
              . *    IF     * .
          *(SECOND(6,STUDENT).NE.-999)
        I * .                    . * I
        I     * .            . *     I
        I          * . *             I
      - I          C I           + I
     -------      -------       -------
     I GOT.IFO    I     I       I     I
     -------      -------       -------

            SECOND(7,STUDENT) = -999
                    I
                 -------
                 I 7000I
                 -------
```

```
500         CONTINUE
                    I
        ----------------------------------------
        I GRADE=SECOND(6,STUDENT)-AVG           I
        I INTER=IROUND(GRADE)                   I
        ----------------------------------------
                    I

            SECOND(7,STUDENT) = INTER

            SAMPLE(17) = SAMPLE(17) + 1
                    I
        ----------------------------------------
        I SUM(17) =SUM(17)+GRADE                I
        I SUMSQ(17) =SUMSQ(17)+(GRADE*GRADE)    I
        ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 135)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
          *(INT.LT.MIN(17))MIN(17)
       I * .                 . * I
       I      * .        . *     I
       I          * . *          I
    - I           0 I          + I
 -------       -------      -------
 I =INTIN      I     I      I     I
 -------       -------      -------

                    I
                    I
                 . *   * .
              . *    IF     * .
          *(INT.GT.MAX(17))MAX(17)
       I * .                 . * I
       I      * .        . *     I
       I          * . *          I
    - I           0 I          + I
 -------       -------      -------
 I =INTIN      I     I      I     I
 -------       -------      -------

.000            CONTINUE

.100            CONTINUE

                DO 8000 TEST = 11,17
                       I
          ----------------------------------------
          I A     =SAMPLE(TEST)                  I
          ----------------------------------------
                       I
                       I
                       I
                 . *   * .
              . *    IF     * .
          *     (N.LE.0)        *
       I * .                 . * I
       I      * .        . *     I
       I          * . *          I
    - I           0 I          + I
 -------       -------      -------
 I GOTO1500    I     I      I     I
 -------       -------      -------

                       I
          ----------------------------------------
          I A     =SUM(TEST)                     I
          ----------------------------------------
                       I
```

(CONTINUED ON PAGE 136)

```
                    I
          C=A/N

              MEAN(TEST) = IROUND(C)
                    I
                    I
                  . *   * .
            . *     IF      * .
          *     (N.GT.1)        *
        I * .                 . * I
        I       * .         . *   I
        I           * . *         I
      - I           C I         + I
     -------      -------      -------
     I GOTO 300   I     I      I     I
     -------      -------      -------


              SDEV(TEST) = 0
                    I
                 -------
                 I 80001
                 -------


300           CONTINUE
                    I
          ----------------------------------------
          I S     =A*A                           I
          I C     =N*SUMSQ(TEST)                 I
          I S     =N*(N-1)                       I
          I SS    =(C-S)/S                       I
          I SD    =SQRT(SS)                      I
          ----------------------------------------
                    I

              SDEV(TEST) = IROUND(SD)
                    I
                 -------
                 I 80001
                 -------


500           CONTINUE

              MEAN(TEST) = -999

              SDEV(TEST) = -999
                    I
          ----------------------------------------
          I MAX(TEST) =-999                      I
          I MIN(TEST) =-999                      I
          ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 137)

```
                    I
100           DO 11000
              DO 13000 TEST = 1, DELTAS
                    I
            ----------------------------------------
            I KIN   =TABLE(2,TEST)                  I
            I I K   =TABLE(1,TEST)                  I
            ----------------------------------------
                    I
              DO 10000 QST = 1, KIN
                    I
            ----------------------------------------
            I IREC =QST+IKK-1                       I
            ----------------------------------------
                    I
        ***   READ(IQUEST'IREC) RECORD
                    I
                 +------------+
                + DO            +
     +++++++++++  8500           +
     +          + I = 1,11       +
     +            +------------+
     +                  I
     +                  I
     +        ----------------------------------------
     +        I J     =I+20                          I
     +        I RECORD(J) =QSTION(1,QST,TEST)        I
     +        ----------------------------------------
     +                  I
     +
 8500 ++++++++    CONTINUE
                    I
                 +------------+
                + DO            +
     +++++++++++  8800           +
     +          + I = 24,25      +
     +            +------------+
     +                  I
     +                  I
     +        ----------------------------------------
     +        I J     =I-12                          I
     +        I T     =QSTION(J+2,QST,TEST)          I
     +        ----------------------------------------
     +                  I
     +                  I
```

(CONTINUED ON PAGE 138)

```
      +
      +                I
      +                I
      +                I
      +            . *   * .
      +        . *    IF     * .
      +      *   (I.GT.0.99)      *
      +    I * .                . * I
      +    I     * .        . *     I
      +    I          * . *         I
      +  - I          C I          + I
      + -------      -------      -------
      + I GOTO1800   I     I      I     I
      + -------      -------      -------
      +
      +                I
      +        ----------------------------------------
      +        I RECORD(I) =-999                      I
      +        ----------------------------------------
      +                I
      +                I
      +              -------
      +              I 3200I
      +              -------
      +
      +
      +
      +
 1000 +          CONTINUE
      +                I
      +        ----------------------------------------
      +        I GRADE=QSTION(J,QST,TEST)/T           I
      +        I RECORD(I) =IROUND(GRADE)             I
      +        ----------------------------------------
      +                I
      +
 900  ++++++++   CONTINUE
                       I
                 +------------+
                + DO            +
      +++++++++  9000           +
      +         + I = 14,17     +
                 +------------+
      +                I
      +                I
      +        ----------------------------------------
      +        I J     =I+12                          I
      +        I RECORD(J) =QSTION(I,QST,TEST)        I
      +        ----------------------------------------
      +                I
      +
 2000 ++++++++   CONTINUE
                       I
               ----------------------------------------
               I INTLR=RECORD(26)+RECORD(27)          I
               ----------------------------------------
                       I
                       I
```

(CONTINUED ON PAGE 139)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *  (INTER.GT.0)      *
         I * .                 . * I
         I     * .         . *     I
         I          * . *          I
       - I          0 I          + I
      -------      -------      -------
      I GOTO100    I     I      I     I
      -------      -------      -------

      ***   RECORD(21) = - 9
                    I
                 -------
                 I 9200I
                 -------


100         CONTINUE
                    I
            ----------------------------------------
            I S     =RECORD(26)                     I
            I GRADE=((S/INTER)*100.0)               I
            ----------------------------------------
                    I

      ***   RECORD(21) = IROUND(GRADE)

200         CONTINUE
                    I
            ----------------------------------------
            I INTER=SDEV(TEST)                      I
            ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *  (INTER.GT.0)      *
         I * .                 . * I
         I     * .         . *     I
         I          * . *          I
       - I          0 I          + I
      -------      -------      -------
      I GOTO1300   I     I      I     I
      -------      -------      -------

      ***   RECORD(22) = -999
                    I
```

(CONTINUED ON PAGE 140)

```
                    I
                    I
                 -------
                 I 95001
                 -------

400              CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
        X(RECORD(24).EQ.-999.OR.RECORD(25).EQ.-999)
        I * .                  . * I
        I      * .         . *     I
        I           * . *          I
      - I           * I          * I
     -------      -------      -------
     I GOTO1400   I     I      I     I
     -------      -------      -------

                    I
            ----------------------------------------
            I S     =RECORD(24)-RECORD(25)         I
            I T     =RECORD(26)+RECORD(27)         I
            I T1    =RECORD(26)/T                  I
            I T2    =1.0-T1                        I
            I T     =T1*T2                         I
            I GRADE=((SQRT(T)/INTCR)*100.0)*S      I
            ----------------------------------------
                    I

        ***   RECORD(22) = IFOUND(GRADE)
                    I
                 -------
                 I 95001
                 -------

1400             CONTINUE

        ***   RECORD(22) = -999

1500             CONTINUE

        ***   RECORD(23) = SDEV(TEST)

        ***   WRITE(IQUEST'IREC) RECORD

              CONTINUE

        ***   READ(ISTONT'1) RECORD
                    I
            ----------------------------------------
            I IDENT(5) =RECORD(5)                  I
            ----------------------------------------
```

```
                I
        ( FET(1)=LESSON
                I
        ----------------------------------------
        I IDENT(2) =-4                          I
        I IDENT(3) =0                           I
        I IDENT(4) =0                           I
        I NUMB =NSTUD+5                         I
        I IREC =((LESSON-1)*NRD/3)+1            I
        ----------------------------------------
                I

***     WRITE(ISCORE'IREC) IDENT , SAMPLE
                I
        ----------------------------------------
        I IDENT(2) =-3                          I
        I IREC =IREC+1                          I
        ----------------------------------------
                I

***     WRITE(ISCORE'IREC) IDENT , MEAN
                I
        ----------------------------------------
        I IDENT(2) =-2                          I
        I IREC =IREC+1                          I
        ----------------------------------------
                I

***     WRITE(ISCORE'IREC) IDENT , MIN
                I
        ----------------------------------------
        I IDENT(2) =-1                          I
        I IREC =IREC+1                          I
        ----------------------------------------
                I

***     WRITE(ISCORE'IREC) IDENT , MAX
                I
        ----------------------------------------
        I IDENT(2) =0                           I
        I IREC =IREC+1                          I
        ----------------------------------------
                I

***     WRITE(ISCORE'IREC) IDENT , SDEV

        DO 12000 STDENT = 1,NDSTDR
                I
        ----------------------------------------
        I IDENT(2) =STDENT                      I
        I IREC =IREC+1                          I
        ----------------------------------------
                I

***     WRITE(ISCORE'IREC) IDENT , (ANSWER(I,STDENT),I=1,10 ) ,
        (SECOND(J,STDENT),J = 1,10)
                I
```

(CONTINUED ON PAGE 142)

```
                    1
200           CONTINUE
      ***     RETURN
              END

              SUBROUTINE PROC2(LESSON,DECKS, ANSWER , SECOND , ESTIM ,
              SAMPLE , SDEV, MEAN , MIN, MAX )
      ***     REAL * 8 SUM(20) , SUMSQ(20) , A , B , C

              INTEGER * 2  ANSWER(10,165) , SECOND(10,165) , ESTIM(10,165)
             , SAMPLE(60) , SDEV(60) , MEAN( 8) , MIN(60) , MAX (60)

              INTEGER * 2 RECORD(25) , TABLE(2,10) ,PTRS(60) , [illegible]

            COMMON/SYSTEM/NLESS,NDECK,NREX,NUREST,NTUD

              COMMON/FILES/ IT(4), ISCRCH , IREAD, IP , IPUNCH ,
              ISTMNT , ISCURE , IAB, ISYS , IX(3)

              INTEGER * 2  CARIN , ISTER

              EQUIVALENCE(CARIN,RECORD(25))

              INTEGER DECKS , STUDENT , TEST , UNO, QST ,AVG , [illegible]
                    I
              +------------+
             + DO           +
+++++++++++   250            +
+            + I = 1,20      +
+             +------ -------+
+                   I
+                   I
+        ----------------------------------------
+        I SUM(I) =0.0                           I
+        I SUMSQ(I) =0.0                         I
+        ----------------------------------------
+                   I
+
250 ++++++++   CONTINUE
      ***     READ(ISYS'3) PTRS
                    I
        ----------------------------------------
        I J     =PTRS(LESSON)                   I
        ----------------------------------------
                    I
                    I
              +------------+
             + DO           +
+++++++++++   500            +
+            + I = 1 , DECKS+
             +------------+
+                   I
+                   I
```

(CONTINUED ON PAGE 143)

```
*** PROGRAM LOGIC MANUAL  **** B.I.P.S. VERSION III  ****
+
+                I
+
+     ***   READ(1'RECORD'J) RECORD
+
+          TABLE(1,I) = RECORD(1)
+
+          TABLE(2,I) = RECORD(10)
+                I
+       ----------------------------------------
+       I J     =J+1                            I
+       ----------------------------------------
+                I
+
300 ++++++++   CONTINUE

      ***   READ(1SYS'1) NOSTDR

            DO 3000 STUDENT = 1 , NOSTDR
                I
            +------------+
          + DO           +
++++++++++   750          +
+         + I = 1,10     +
+           +------------+
+                I
+
+           SECOND(I,STUDENT) = 0
+
750 ++++++++   CONTINUE

      ***   READ(1STDNT'STUDENT) RECORD

            SECOND(I,STUDENT) = CARIN
                I
                I
              . *   * .
          . *    IF     * .
        * (CARIN.EQ.-999)    *
      I * .                . * I
      I     * .        . *     I
      I         * . *          I
    - I         0 I          + I
   -------      -------      -------
   I GOTO1000   I     I      I     I
   -------      -------      -------


            SAMPLE(11) = SAMPLE(11) + 1
                I
         ----------------------------------------
         I SUM(11) =SUM(11)+CARIN                I
         I SUMSQ(11) =SUMSQ(11)+(CARIN*CARIN)    I
         ----------------------------------------
                I
                I
```

(CONTINUED ON PAGE 144)

```
*** PROGRAM LOGIC MANUAL ***  A.I. . . VERSION III  ***

                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(CAPIN.GT.MAX(II))MAX(II)
         I * .                 . * I
         I     * .         . *     I
         I          * . *          I
       - I          0 I          + I
       -------      -------      -------
       I =CAPIN     I     I      I     I
       -------      -------      -------

                    I
                    I
                 . *   * .
              . *    IF     * .
           *(CAPIN.LT.MIN(II))MIN(II)
         I * .                 . * I
         I     * .         . *     I
         I          * . *          I
       - I          0 I          + I
       -------      -------      -------
       I =CAPIN     I     I      I     I
       -------      -------      -------

200          CONTINUE

             DO 2000 TEST = 1 , NECKS
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(ANSWER(TEST,STUDENT).NE.-999)
         I * .                 . * I
         I     * .         . *     I
         I          * . *          I
       - I          0 I          + I
       -------      -------      -------
       I GOTO1100   I     I      I     I
       --- ---      -------      -------

             SECOND(TEST+1,STUDENT) = -999
                    I
                 -------
                 I 2000I
                 -------

                    I
```

(CONTINUED ON PAGE 145)

```
                    I
  100          CONTINUE
                    I
            ----------------------------------------
            I I     =ANSMEP(TEST,STDEST)-GRADE(IEST)  I
            I S     =1/SDEV(IEST)                     I
            I GRADE=(S*1.0)+S3                        I
            I INTR =INTEGER(GRADE)                    I
            ----------------------------------------
                    I

               SCORE(IEST + 1, STDEST) = INTR
                    I
            ----------------------------------------
            I LL    =TEST+1L                          I
            ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(INTR.GT.MAX(LL))MAX(LL)
        L * .                 . * I
        L      * .         . *    I
        L          * . *          I
     - I           G I          + I
     -------      -------      -------
     I =INTI      I     I      I     I
     -------      -------      -------

                    I
                    I
                 . *   * .
              . *    IF     * .
           *(INTR.LT.MIN(LL))MIN(LL)
        L * .                 . * I
        L      * .         . *    I
        L          * . *          I
     - I           G I          + I
     -------      -------      -------
     I =INTI      I     I      I     I
     -------      -------      -------

                    I
            ----------------------------------------
            I SUM(LL) =SUM(LL)+GRADE                  I
            I SUMSQ(LL) =SUMSQ(LL)+(GRADE*GRADE)      I
            ----------------------------------------
                    I

               SAMPLE(LL) = SAMPLE(LL) + 1

  200          CONTINUE
                    I
```

(CONTINUED ON PAGE 144)

```
                    I
            NUMREC, TEST = 1 ,  FORS
                    I
                    I
                 * .   * .
              * .   IF    * .
          *(ANSWER(TEST,STDENT).LT. CAR(TEST))
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
      - I         0 I           + I
     -------     -------       -------
     I GOTO1200  I     I       I     I
     -------     -------       -------

                    I
            ---------------------------------------
            I IREC =((STDENT-1)*DECKS)+TEST         I
            ---------------------------------------
                    I
        ***   READ(ISCRCH'IREC) RECORD
                    I
            ---------------------------------------
            I NUM  =TABLE(2,TEST)                   I
            ---------------------------------------
                    I
            DO 2500 QNO = 1,NUM
                    I
            ---------------------------------------
            I QST  =QNO+17                          I
            ---------------------------------------
                    I
                    I
                    I
                 * .   * .
              * .   IF    * .
          *(RECORD(QST).LT.1) *
        I * .                 . * I
        I     * .         . *     I
        I         * . *           I
      - I         0 I           + I
     -------     -------       -------
     I GOTO1250  I     I       I     I
     -------     -------       -------

            QSTION(16,QNO,TEST) = QSTION(16,QNO,TEST) + 1
                    I
```

(CONTINUED ON PAGE 147)

```
                    I
                    I
                 -------
                 I 2500I
                 -------

  50        CONTINUE

            CSTION(17,NUM,TEST) = CSTION(17,NUM,TEST) + 1

 500        CONTINUE

1500        CONTINUE

3000        CONTINUE
                    I
          ----------------------------------------
          I NUM   =DECKS+11                        I
          ----------------------------------------
                    I

            DO 8000 TEST = 11,NUM
                    I
          ----------------------------------------
          I N     =SAMPLE(TEST)                    I
          ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *     (N.LE.0)        *
        I * .                  . * I
        I     * .          . *     I
        I          * . *           I
      - I          G I           + I
     -------      -------       -------
     I GOTO1500   I     I       I     I
     -------      -------       -------

                    I
          ----------------------------------------
          I A     =SUM(TEST)                       I
          I C     =A/N                             I
          ----------------------------------------
                    I

            MEAN(TEST) = IRCUND(G)
                    I
```

(CONTINUED ON PAGE 148)

```
                    I
                    I
                    I
                 . *   * .
              . *   IF    * .
            *    (N.GT.1)      *
         L * .                . * I
         I     * .        . *     I
         I          * . *         I
       - I          0 I         + I
       -------      -------     -------
       I COTBI3CC   I     I     I     I
       -------      -------     -------

            SDEV(TEST) = 0
                 I
              -------
              I 8000I
              -------


300         CONTINUE
                 I
          ----------------------------------------
          I B     =A*A                            I
          I C     =N*SUMSQ(TEST)                  I
          I S     =N*(N-1)                        I
          I SS    =(C-B)/S                        I
          I SD    =SQRT(SS)                       I
          ----------------------------------------
                 I

            SDEV(TEST) = IRDUND(SD)
                 I
              -------
              I 8000I
              -------


500         CONTINUE

            MEAN(TEST) = -999

            SDEV(TEST) = -999
                 I
          ----------------------------------------
          I MAX(TEST) =-999                       I
          I MIN(TEST) =-999                       I
          ----------------------------------------
                 I
                 I
```

(CONTINUED ON PAGE 149)

```
                    I
 300          CONTINUE
                    I
              DO 10000 TEST = 1, BOOKS
                    I
          ----------------------------------------
          I NUM  =TABLE(2,TEST)                   I
          I INK  =TABLE(1,TEST)                   I
          ----------------------------------------
                    I
              DO 10000 QST = 1, NUM
                    I
          ----------------------------------------
          I IPTC =QST+INK-1                       I
          ----------------------------------------
                    I
        ***   READ(IQUEST'INFO) RECORD
                    I
                +------------+
               + DO          +
+++++++++++  8500             +
+            + I = 1,11       +
+             +------------+
+                   I
+                   I
+         ----------------------------------------
+         I J     =I+29                           I
+         I RECORD(J) =QSTION(I,QST,TEST)         I
+         ----------------------------------------
+                   I
+
 10000 ++++++++   CONTINUE
                    I
                +------------+
               + DO          +
+++++++++++  8800             +
+            + I = 24,25      +
+             +------------+
+                   I
+                   I
+         ----------------------------------------
+         I J     =I-12                           I
+         I T     =QSTION(J+2,QST,TEST)           I
+         ----------------------------------------
+                   I
+                   I
```

(CONTINUED ON PAGE 150)

```
+
+                I
+                I
+                I
+            . '   * .
+        . *    IF     * .
+      *   (T.GT.0.99)      *
+    I * .                 . * I
+    I      * .        . *     I
+    I          * . *          I
+  - I          * I          + I
+ -------      -------      -------
+ I GOTO1000  I      I      I      I
+ -------      -------      -------
+
+                I
+        ----------------------------------------
+        I KTCORE(I) =-999                       I
+        ----------------------------------------
+                I
+                I
+               -------
+               I 8800I
+               -------
+
+
+
+
.500 +          CONTINUE
+                I
+        ----------------------------------------
+        I GRADE=QSTION(J,QST,TEST)/T            I
+        I RECORD(I) =IROUND(GRADE)              I
+        ----------------------------------------
+                I
+
 800 ++++++++   CONTINUE
                I
               +------------+
             + DO           +
+++++++++++  9000            +
+          + I = 14,17      +
            +------------+
+                I
+                I
+        ----------------------------------------
+        I J     =I+12                           I
+        I RECORD(J) =QSTION(I,CST,TEST)         I
+        ----------------------------------------
+                I
+
 1000 ++++++++  CONTINUE
                I
        ----------------------------------------
        I INTCR=RECORD(26)+RECORD(27)           I
        ----------------------------------------
                I
                I
```

(CONTINUED ON PAGE 151)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *  (INTER.GT.0)      *
        I * .                 . * I
        I      * .         . *     I
        I          * . *          I
      - I          ( I          + I
     -------      -------      -------
     I GOTO100    I     I      I     I
     -------      -------      -------

        ***   RECORD(21) = -999
                    I
                 -------
                 I 9200I
                 -------


100        CONTINUE
                    I
           ----------------------------------------
           I S     =RECORD(26)                     I
           I GRADE=((S/INTER)*100.0)               I
           ----------------------------------------
                    I

        ***   RECORD(21) = IROUND(GRADE)

200        CONTINUE
                    I
           ----------------------------------------
           I INTER=SDEV(TEST)                      I
           ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *  (INTER.GT.0)      *
        I * .                 . * I
        I      * .         . *     I
        I          * . *          I
      - I          0 I          + I
     -------      -------      -------
     I GOTO300    I     I      I     I
     -------      -------      -------

        ***   RECORD(22) = -999
                    I
```

(CONTINUED ON PAGE 152)

```
                    I
                    I
                 -------
                 I 950 I
                 -------

0300             CONTINUE
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(RECORD(24).EQ.-999.OR.RECORD(25).EQ.-999)
        I  * .                  . * I
        I      * .          . *      I
        I          * . *            I
     - I           C I            I I
   -------       -------        -------
   I GOTO1400    I     I        I     I
   -------       -------        -------

                    I
          ----------------------------------------
          I S     =RECORD(24)-RECORD(25)          I
          I T     =RECORD(26)+RECORD(27)          I
          I T1    =RECORD(26)/T                   I
          I T2    =1.0-T1                         I
          I T     =T1*T2                          I
          I GRADE=((SQRT(T)/INTER)*100.0)*S       I
          ----------------------------------------
                    I

     ***    RECORD(22) = IROUND(GRADE)
                    I
                 -------
                 I 95001
                 -------

0400             CONTINUE

     ***         RECORD(22) = -999

0500             CONTINUE

     ***         RECORD(23) = SDEV(TEST)

     ***         WRITE(IQUEST'IREC) RECORD

                 CONTINUE

     ***         READ(ISTDNT'1) RECORD
                    I
          ----------------------------------------
          I IDENT(5) =RECORD(5)                   I
          ----------------------------------------
                    I
```

```
                I
        IDENT(1)=LESSON
                I
        ----------------------------------------
        I IDENT(2) =-4                          I
        I IDENT(3) =0                           I
        I IDENT(4) =0                           I
        I NUMB =NSTUD+5                         I
        I IREC =((LESSON-1)*NUMB)+1             I
        ----------------------------------------
                I

***     WRITE(ISCORE'IREC) IDENT , SAMPLE
                I
        ----------------------------------------
        I IDENT(2) =-3                          I
        I IREC =IREC+1                          I
        ----------------------------------------
                I

***     WRITE(ISCORE'IREC) IDENT , MEAN
                I
        ----------------------------------------
        I IDENT(2) =-2                          I
        I IREC =IREC+1                          I
        ----------------------------------------
                I

***     WRITE(ISCORE'IREC) IDENT , MIN
                I
        ----------------------------------------
        I IDENT(2) =-1                          I
        I IREC =IREC+1                          I
        ----------------------------------------
                I

***     WRITE(ISCORE'IREC) IDENT , MAX
                I
        ----------------------------------------
        I IDENT(2) =0                           I
        I IREC =IREC+1                          I
        ----------------------------------------
                I

**      WRITE(ISCORE'IREC) IDENT , SDEV

        DO 12000 STDENT = 1,ROSTER
                I
        ----------------------------------------
        I IDENT(2) =STDENT                      I
        I IREC =IREC+1                          I
        ----------------------------------------
                I

***     WRITE(ISCORE'IREC) IDENT , (ANSWER(I,STDENT),I=1,10 ) ,
        (SECOND(J,STDENT),J = 1,10)
                I
```

(CONTINUED ON PAGE 194)

```
                    I
                    TO
          ***       TO
                 END
                 FUNCTION IROUND(F)
                    I
                    I
                 IF
                 (F.LE.0.0)
          -
                 0
                 +
                 GOTO 1000
                 IROUND =I+(0.5*(F/ABS(F)))
                 RETURN
1000             CONTINUE
                 IROUND =0
                 RETURN
                 END
```

2101

BACKBACK FOLLOWS- ROUTINE ISN REG. 14 REG. 15 REG. 0 REG. 1
                   IBCOM   92003020 00005658 07000001 00000000
                   MAINPG
ENTRY POINT= 00001FF8

SECTION III

OPERATIONAL INPUT

CONTROL PROGRAM

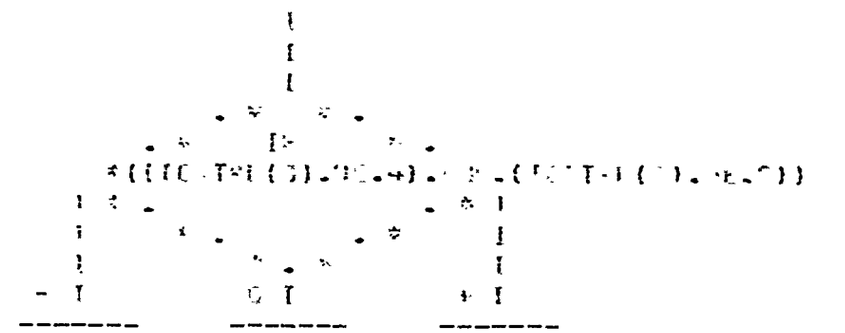
```
                    I
        **** PROGRAM LOGIC MANUAL **** A.I.M.S. VERSION III
          DIMENSION ITEST(3)
          DIMENSION ICOM(40)
          INTEGER HEADER,SYSTEM
          INTEGER IGNTBL(15)
          INTEGER*2 LPECM,UPECM,NOS(50),PIRS(50),MOREC(55)
          DEFINE FILE 5(1500,33,U,I5),
                      6( 300,23,U,I6),
                      7( 200,100,U,I7),
                    8(4000,35,U,I8),
                      9( 250,33,U,I9),
                   10(8040,53,U,I10),
                     11( 400,23,U,I11),
                     12( 100,25,U,I12)
          INTEGER*2 IVECT(4,10,40)
          COMMON/CARDEC/IVECT
          COMMON /SYSTEM/ NLESS,NDECK,NREX,NQUEST,NSTUD
          COMMON /FILES/ IFILES(15)
          EQUIVALENCE (IFILES(1),ICD),(IFILES(3),IFI), (IFILES(6),MOREC),
          (IFILES(12),SYSTEM)
          DATA IT/'(CA'/,IS/'ADS '/,IHE/'HEAD'/,ISTU/'STUD'/,ITP/'ODEC'/
          LOGICAL*1 FIRST
                    I
             +-------------+
             + DO          +
   +++++++++     5          +
   +         + IDEV=1,15    +
   +          +-------------+
   +                I
   +                I
   +        ----------------------------------------
 5 ++++++++I IFILES(IDEV) =IDEV                     I
          I NLESS=40                                I
          I NSTUD=230                               I
          I NREX =4                                 I
          I NQUEST =48                              I
          I NDECK=10                                I
          ----------------------------------------
                    I
```

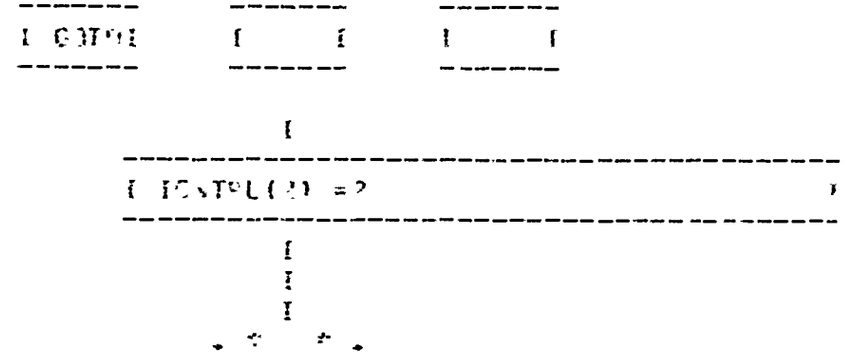
(CONTINUED ON PAGE 2)

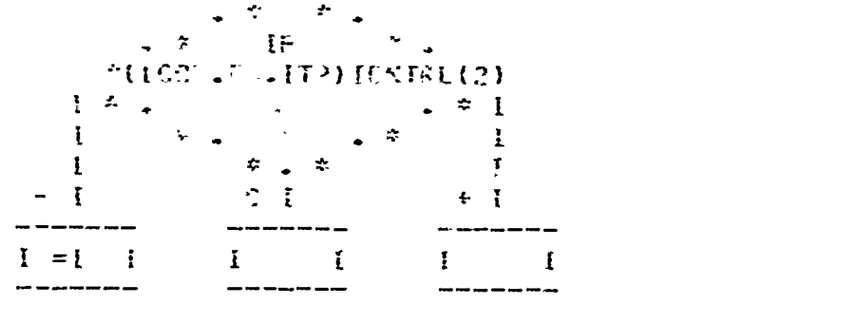
```
                    I
                    I
                +-----------+
1000            + 10        +
     +++++++++++    I        +
     +          + I=1,10     +
     +           +-----------+
     +                I
     +                I
     +        ----------------------------------------
     + ++++++++I ICNTRL(4) =0                         I
               I ICNTRL(5) =0                         I
               I ICNTRL(7) =10                        I
               I ICNTRL(8) =14                        I
               I ICD  =1                              I
               I IPT  =3                              I
               ----------------------------------------
                    I

          ***READ (ICD,2) (ITEST(K),K=1,3),ICNTRL(I),ICNTRL( ),ICNTRL(5),I[illegible] ,
             ICRM

2            FORMAT (3A4,3X,I2,1X,I1,1X,I2,1X,A4,7X,46A1)
                    I
                    I
                 . *   * .
              . *    IF     * .
            *((ITEST(1).EQ.IT).AND.(ITEST(2).EQ.IS))
          I * .                 . * I
          I     * .         . *     I
          I         * . *           I
        - I         0 I           + I
       -------     -------       -------
       I GOTO100   I     I       I     I
       -------     -------       -------


4          ***WRITE (IPT,3)

3            FORMAT (1H0,/1H0,'***** ILLEGAL CONTROL CARD *****',//////////////)
                    I
                 -------
                 I 1000I
                 -------


                    I
       (CONTINUED ON PAGE   3)
```

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
          *(ITEST(2).EQ.ISTU)ICNTRL(4)
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
      -------      -------      -------
      I  =>  I     I     I      I     I
      -------      -------      -------

                    I
                    I
                 . *   * .
              . *    IF     * .
          *(ITEST(3).EQ.IHE)ICNTRL(4)
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
      -------      -------      -------
      I  =>  I     I     I      I     I
      -------      -------      -------

                    I
                    I
                 . *   * .
              . *    IF     * .
          *(ICNTRL(4).EQ.0)    *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
      -------      -------      -------
      I GOTO I     I     I      I     I
      -------      -------      -------

                    I
                    I
                 . *   * .
              . *    IF     * .
          *(ICNTRL(I).LE.0)    *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
      -------      -------      -------
      I GOTO I     I     I      I     I
      -------      -------      -------

                    I
```

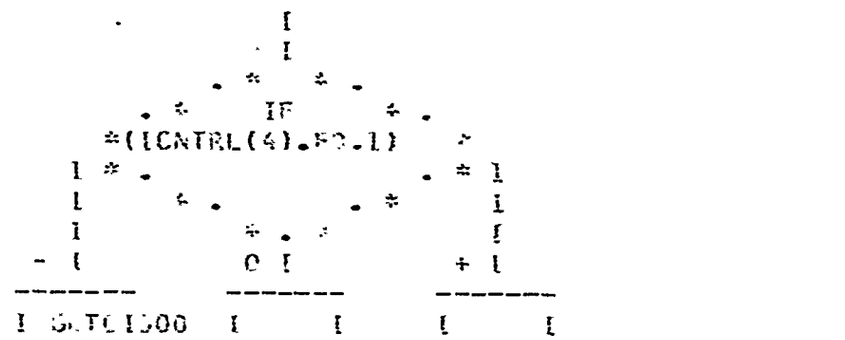
(CONTINUED ON PAGE 4)







```
3000
```



```
***READ (SYSTEM'2) LPERM,NPERM

***READ (SYSTEM'3) PTRS

***READ (SYSTEM'4) NOS
```

(CONTINUED ON PAGE 5)

```
                    I
                    I
                +------------+
               + DO          +
          ++++++++++  3002    +
          +          + ILLF=1,40    +
          +           +------------+
          +                I
          +                I
          +           +------------+
          +          + DO          +
          ++++++++++  3003    +
          +          + ICLS=1,10    +
          +           +------------+
          +                I
          +                I
          +           +------------+
          +          + DO          +
          ++++++++++  3003    +
          +          + ICLT=1,4     +
          +           +------------+
          +                I
          +
  003 ++++++++IVECT(ICLT,ICLS,ICLS)=-1
                    I
                +------------+
               + DO          +
          ++++++++++  3001    +
          +          + ILESS=1,LPRAM+
          +           +------------+
          +                I
          +                I
          +        ----------------------------------------
          +        I ISTART =PTAB(ILESS)                  I
          +        I IEND =ISTART+NOS(ILESS)-1            I
          +        I IDIFF=ISTART-1                       I
          +        ----------------------------------------
          +                I
          +                I
          +           +------------+
          +          + DO          +
          ++++++++++  3002    +
          +          + ISPOT=ISTART,IEND
          +           +------------+
          +                I
          +
          +    ***READ (HEADER'ISPOT)HEDREC
          +
          +        IVECT(1,ISPOT-IDIFF,ILESS)=HEDREC(3)
          +
          +        IVECT(2,ISPOT-IDIFF,ILESS)=HEDREC(4)
          +
          +        IVECT(3,ISPOT-IDIFF,ILESS)=HEDREC(10)
          +
          +        IVECT(4,ISPOT-IDIFF,ILESS)=HEDREC(6)
          +
  002 ++++++++CONTINUE
          +                I
```

```
*** [illegible] LOGIC [illegible] ***
      +
      +                    I
      +
7001 ++++++++CONTINUE
                           I
                 ----------------------------------------
 900             I FIRST=.TRUE.                         I
                 ----------------------------------------
                           I
 901             FORMAT (1H1,/1X0,3X4,3X,I2,1X,I1,I1,1X,I2,1X,I4,I4,7X,4A4,//)
           ***WRITE (IPT,4001) ITEST,ICNTRL(1),ICNTRL(2),ICNTRL(3),IC[illegible],IC[illegible]
                 CALL CASDM(ICNTRL,IVECT,FIRST)
                 CALL EXIT
                 END
END FPIPI

FTN200 FOLLOWS-   ROUTINE    ISN    [illegible] 14   [illegible] 15   [illegible]   [illegible]   [illegible]
                  FSCTV             [illegible]      [illegible]      [illegible]   [illegible]
                  PSIMPS
ENTRY POINT=  0001BFE
```

SECTION IV

OPERATIONAL INPUT SUBPROGRAMS

```
*** PROGRAM LOGIC MANUAL  *** A.I.M.S. [illegible]

                    I

        *** PROGRAM LOGIC MANUAL  *** A.I.M.S. [illegible]

          SUBROUTINE CAR S(IC,TPI,IVECT,FIRST)

          LOGICAL*1 FIRST

          LOGICAL*1 CHARLY

          DIMENSION ICNTRL(15)

          LOGICAL*1 ACTIVE

          INTEGER RIGHT,LEFT

          INTEGER*2 IVECT(4,10,40)

            INTEGER*2 AREA(80),RECD(45)

          INTEGER*2 SCOLS(12),NUMCOL(20)

          INTEGER*2 SHIFTS

          INTEGER*2 ID1,ID2,ID3,ID4,ID5

          DATA SCOLS/4,10,16,22,28,34,40,46,52,58,64,70/

          DATA NUMCOL/2,6,8,12,14,18,20,24,26,30,32,36,38,42,44,48,50,54,56,
          60,62,66,68/

          COMMON /FILES/ ICD,IPC,IPT,IWI,ISCH,HEADER,IDCT,LOGT,LBRKD,ISCRT
          ,ITEXT,SYSTEM
                    I
          ----------------------------------------
          I IPT  =3                                I
          I ITAPE=ICNTRL(8)                        I
          I ITAPE=14                               I
          I LEFT =1                                I
          I RIGHT=2                                I
          I ICODE=ICNTRL(4)                        I
          ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 2)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *      (FIRST)       *
        I * .                 . * I
        I      * .        . *     I
        I          A . *          I
     - I           0 I           + I
   -------      -------      -------
   I ASSIGN1IT0IIOG   I      I      I
   -------      -------      -------

                    I
                    I
                 . *   * .
              . *    IF     * .
           *  (.NOT.FIRST)      *
        I * .                 . * I
        I      * .        . *     I
        I          A . *          I
     - I           0 I           + I
   -------      -------      -------
   I ASSIGN2GOOI.IIOGI      I      I
   -------      -------      -------

                    I
                 -------
                 I ILOGI
                 -------


1       ***REWIND ITAPE
                    I
            ----------------------------------------
            I NREX =0                              I
            ----------------------------------------
                    I
2           CALL CRDIN(AREA)
                    I
            ----------------------------------------
            I CHARLY =.FALSE.                      I
            I ACTION =.FALSE.                      I
            ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 3)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
         *((AREA(1).EQ.768).AND.(AREA(2).EQ.1024))
       I * .                  . * I
       I      * .         . *      I
       I           * . *           I
    - I            G I           + I
 -------        -------       -------
 I GOTO199      I     I       I     I
 -------        -------       -------

                    I
                    I
                 . *   * .
              . *    IF     * .
         *((AREA(1).EQ.768).AND.(AREA(2).EQ.768))
       I * .                  . * I
       I      * .         . *      I
       I           * . *           I
    - I            G I           + I
 -------        -------       -------
 I GOTO1000     I     I       I     I
 -------        -------       -------

                    I
                    I
                 . *   * .
              . *    IF     * .
         *((AREA(1).EQ.768).AND.(AREA(2).EQ.2048))
       I * .                  . * I
       I      * .         . *      I
       I           * . *           I
    - I            G I           + I
 -------        -------       -------
 I GOTO1000     I     I       I     I
 -------        -------       -------

                    I
                    I
                 . *   * .
              . *    IF     * .
         *((AREA(1).EQ.2066).AND.(AREA(2).EQ.2066))
       I * .                  . * I
       I      * .         . *      I
       I           * . *           I
    - I            G I           + I
 -------        -------       -------
 I GOTO1000     I     I       I     I
 -------        -------       -------

                    I
```

(CONTINUED ON PAGE 4)

```
                    I
                    I
                 -------
                 I 9000I
                 -------

                    I
              +------------+
              + DO          +
+++++++++++   1002          +
+             + N=1,NO      +
              +------------+
                    I
                    I
+        ----------------------------------------
+        I AREA(N) =LETTER(AREA(N))              I
+        ----------------------------------------
+                   I
+
20 +        CONTINUE
+
10 +        FORMAT (1H1,/1H1,'***** JOB STACK ERROR ******************',/)
+
+     ***WRITE (IPT,1001)
+
+     ***WRITE (IPT,1003) AREA
+
30 +        FORMAT (1H ,'THIS CARD READ IN BINARY- ',3CA1,/1H ,
+         ' REPAIR JOBSTACK AND CANCEL THIS JOB ******************',/////
+        ///)
+                   I
+                   I
+              . *   * .
+          . *    IF     * .
+        *    (CHARLY)       *
+     I * .                . * I
+     I     * .        . *     I
+     I          * . *         I
+  - I           0 I          + I
+ -------      -------      -------
+ I GOTO10000 I      I      I      I
+ -------      -------      -------
+
+
+        PAUSE
+                   I
+                 -------
+                 I 10001
+                 -------
+
+
+
+                   I
+        ----------------------------------------
200 +   I ACTION =.TRUE.                        I
+        ----------------------------------------
```

(CONTINUED ON PAGE 5)


```
+
+                I
+                I
+             -------
+             I 9999I
+             -------
+
+
+
+
+        CALL EXIT
+
+        CONTINUE
+
+        CONTINUE
+                I
+                I
+            . *   * .
+         . *    IF     * .
+       *    (ACTION)        *
+    I * .                 . * I
+    I      * .        . *     I
+    I          * . *          I
+  - I          0 I          + I
+ -------      -------      -------
+ I GOTO1000 I      I      I      I
+ -------      -------      -------
+
+                I
+        ----------------------------------------
+        I NREX =NREX+1                          I
+        I RECD(45) =NREX                        I
+        I RECD(44) =0                           I
+        I RECD(43) =0                           I
+        ----------------------------------------
+                I
+                I
+           +------------+
+          + DO            +
++++++++++     3            +
+          + ILCOL=1,80,2 +
+           +------------+
+                I
+                I
+                I
+            . *   * .
+         . *    IF     * .
+       *(AREA(ILCOL).NE.0)RECD(44)=RECD(44)
+    I * .                 . * I
+    I      * .        . *     I
+    I          * . *          I
+  - I          0 I          + I
+ -------      -------      -------
+ I +1  I      I      I      I      I
+ -------      -------      -------
+
+                I
```

(CONTINUED ON PAGE 6)

```
 +
 +                    I
 +
2 ++++++++CONTINUE
 +                    I
 +              +-------------+
 +            + DO            +
 ++++++++++      4             +
 +            + NLCL=1,23     +
 +              +-------------+
 +                    I
 +                    I
 +          ----------------------------------------
 +          I NDEX =NUMCOL(NLCL)                    I
 +          I AREA(NDEX) =NUMBER(AREA(NDEX))        I
 +          ----------------------------------------
 +                    I
 +                    I
 +                    I
 +                . *   * .
 +            . *     IF      * .
 +        *(AREA(NDEX).EQ.-1)RECD(43)=RECD(43)
 +      I * .                    . * I
 +      I       * .          . *      I
 +      I            * . *            I
 +  - I            0 I            + I
 + -------        -------        -------
 + I +1  I        I     I        I     I
 + -------        -------        -------
 +
 +
4 ++++++++CONTINUE
 +                    I
 +              +-------------+
 +            + DO            +
 ++++++++++      5             +
 +            + IQCOL=1,12    +
 +              +-------------+
 +                    I
 +                    I
 +          ----------------------------------------
 +          I NDEX =QCOLS(IQCOL)                    I
 +          ----------------------------------------
 +                    I
 +
5 +++++++*RECD(17+IQCOL)=AREA(NDEX)
 +                    I
 +          ----------------------------------------
 +          I RECD(1) =(AREA(60)*10)+AREA(62)       I
 +          I RECD(3) =(AREA(66)*10)+AREA(68)       I
 +          I RECD(4) =(AREA(54)*10)+AREA(56)       I
 +          I RECD(5) =(AREA(42)*10)+AREA(44)       I
 +          I RECD(6) =(AREA(48)*10)+AREA(50)       I
 +          I ID1  =LETTER(AREA(72))                I
 +          I ID2  =LETTER(AREA(74))                I
 +          I ID3  =LETTER(AREA(76))                I
 +          I ID4  =LETTER(AREA(78))                I
 +          ----------------------------------------
 +                    I
```

(CONTINUED ON PAGE 7)

```
+
+                  I
+        ID5=LSTTR(AREA(3))
+                  I
+                  I
+              . *   * .
+          . *     IF      * .
+        *   (ICODE.EQ.1)      *
+     I * .                  . * )
+     I      * .        . *      I
+     I           : . *           I
+  - I           C I           + I
+ -------       -------       -------
+ I STICICO     I     I       I     I
+ -------       -------       -------
+
+                  I
+        ----------------------------------------
+        I RECD(2) =(((AREA(2)*10)+AREA(6))      I
+        I RECD(13) =(AREA(24)*10)+AREA(26)      I
+        I RECD(14) =(AREA(12)*10)+AREA(14)      I
+        I RECD(15) =(AREA(18)*10)+AREA(20)      I
+        I RECD(16) =(AREA(30)*10)+AREA(32)      I
+        I RECD(17) =(AREA(36)*10)+AREA(38)      I
+        I RECD(7) =ID1                          I
+        ----------------------------------------
+                  I
+
+        CALL PACK(ID2,ID3,RECD(8))
+
+        CALL PACK(ID4,ID5,RECD(9))
+                  I
+               -------
+               I 199 I
+               -------
+
+
+
+                  I
+        ----------------------------------------
+        I RECD(2) =0                            I
+        I RECD(7) =0                            I
+        I RECD(8) =0                            I
+        I RECD(9) =0                            I
+        ----------------------------------------
+                  I
+
+        CALL PACK(ID1,ID2,RECD(7))
+
+        CALL PACK(ID3,ID4,RECD(8))
+                  I
+        ----------------------------------------
+        I RECD(9) =ID5                          I
+        I RECD(10) =0                           I
+        I RECD(12) =0                           I
+        I RECD(13) =(AREA(24)*10)+AREA(26)      I
+        I RECD(11) =(((AREA(2)*10)+AREA(6))     I
+        ----------------------------------------
+                  I
```

(CONTINUED ON PAGE 3)

```
**** P [illegible] LOGIC MANUAL  ***A [illegible]  ***
+
+                I
+        RECD(14)=0
+                I
+        ----------------------------------------
+        I RECD(15) =0                           I
+        I RECD(16) =0                           I
+        I RECD(17) =0                           I
+        I RECD(18) =LETTER(AREA(20))            I
+        ----------------------------------------
+                I
+
  190 +        CALL REPOS(IRECD,ICNTRL,IVECT,FIRST)
+
  200 +        CONTINUE
+                I
+              -------
+              I 2   I
+              -------
+
+
+
+
+        CONTINUE
+
+        END FILE ITAPE
+
+    ***REWIND ITAPE
+
+        CONTINUE
+
+    ***RETURN
+
+        END
+
+        SUBROUTINE NEXCE(RECD,ICNTRL,IVECT,FIRST)
+
+        DIMENSION ICNTRL(15)
+
+        INTEGER OUTAP
+
+        INTEGER*2 ISAVE
+
+        INTEGER*2 S,D
+
+        INTEGER*2 DE,LF,[illegible]
+
+        INTEGER*2 ILES
+
+        INTEGER*2 RECD(45)
+
+        INTEGER*2 IVECT(4,10,40)
+
+        INTEGER*2 CHKRC(45)
+
+        INTEGER*2 OUTPUT(65)
+
+        INTEGER*2 PRNTY,ITAPE,JTYPE,NORM
+                I
```

(CONTINUED ON PAGE 9)

```
+
+                    I
+
+        INTEGER*2 TNUM
+
+        INTEGER*2 IANS
+
+        LOGICAL*1 ACTION
+
+        LOGICAL*1 FIRST
+
+        LOGICAL*1 DELET
+
+        EQUIVALENCE (OUTPUT(12),TNUM)
+
+        DATA DE/'DE'/,LE/'LE'/,T/'T'/
+
+        DATA S/'S'/,D/'D'/
+
100     CONTINUE
+                    I
+        ----------------------------------------
+        I IPT  =3                                I
+        I NCRD =ICNTRL(3)                        I
+        I JTYPE=ICNTRL(4)                        I
+        I ITAPE=ICNTRL(2)                        I
+        I NEMTY=ICNTRL(5)                        I
+        I ILES =RECD(1)                          I
+        I DELET=.FALSE.                          I
+        ----------------------------------------
+                    I
+                    I
+                    I
+                 . * * .
+            . *    IF     * .
+        *  (.NOT.FIRST)      *
+     I * .                 . * I
+     I      * .        . *     I
+     I           * . *          I
+  - I            0 I           + I
+ -------       -------       -------
+ I GOTO100     I     I       I     I
+ -------       -------       -------
+
+                    I
+        ----------------------------------------
+        I FIRST=.FALSE.                          I
+        ----------------------------------------
+                    I
+                    I
+            +------------+
+           + DO          +
++++++++++       I         +
+           + IN=1,65     +
+            +------------+
+                    I
+                    I
+        ----------------------------------------
I ++++++++I OUTPUT(IN) =0                        I
+        ----------------------------------------
+                    I
```

(CONTINUED ON PAGE 10)

```
+
+                I
+       CHKRC(5)=ICNTRL(1)
+                I
+       ----------------------------------------
+       I ISAVE=CHKRC(5)                        I
+       I CHKRC(3) =ICNTRL(6)                   I
+       I CHKRC(2) =ICNTRL(7)                   I
+       I OUTAP=ICNTRL(5)                       I
+       I ISEQ =0                               I
+       ----------------------------------------
+                I
+
100 +   CONTINUE
+
+       CALL ERROR(RECD,CHKRC,OUTPUT,ISEQ,JTYPE,ACTION)
+                I
+                I
+            . *   * .
+         . *    IF     * .
+      *  (.NOT.ACTION)     *
+    I * .                . * I
+    I     * .        . *     I
+    I         * . *          I
+  - I         0 I          + I
+ -------     -------      -------
+ I GOTO17777 I     I      I     I
+ -------     -------      -------
+
+                I
+                I
+            . *   * .
+         . *    IF     * .
+      *   (ISEC.GT.0)      *
+    I * .                . * I
+    I     * .        . *     I
+    I         * . *          I
+  - I         0 I          + I
+ -------     -------      -------
+ I GOTO1003  I     I      I     I
+ -------     -------      -------
+
+                I
+                I
+            . *   * .
+         . *    IF     * .
+    .  *((RECD(7).EQ.DE).AND.(RECD(3).EQ.LE).AND.(RECD(9).EQ.T))
+    I * .                . * I
+    I     * .        . *     I
+    I         * . *          I
+  - I         0 I          + I
+ -------     -------      -------
+ I DELETE=   I     I      I     I
+ -------     -------      -------
+
+        .TRUE.
+                .I
```

(CONTINUED ON PAGE 11)

```
+
+                I
+                I
+                I
+            . *   * .
+        . *    IF     * .
+      *     (DELFT)       *
+    I * .                . * I
+    I     * .        . *     I
+    I         * . *          I
+  - I         * I          + I
+ -------     -------      -------
+ I GOTO1003  I     I      I     I
+ -------     -------      -------
+
+                I
+       ----------------------------------------
+       I ICNT =0                               I
+       ----------------------------------------
+                I
+                I
+                I
+            . *   * .
+        . *    IF     * .
+      *  (JTYPE.EQ.1)     *
+    I * .                . * I
+    I     * .        . *     I
+    I         * . *          I
+  - I         * I          + I
+ -------     -------      -------
+ I GOTO1000  I     I      I     I
+ -------     -------      -------
+
+                I
+          +-----------+
+         + DO          +
++++++++++     2         +
+         + IDECK=1,10   +
+          +-----------+
+                I
+                I
+                I
+            . *   * .
+        . *    IF     * .
+      *(IVECT(1,IDECK,ILES).NE.RECD(2))
+    I * .                . * I
+    I     * .        . *     I
+    I         * . *          I
+  - I         * I          + I
+ -------     -------      -------
+ I GOTO1     I     I      I     I
+ -------     -------      -------
+
+                I
```

(CONTINUED ON PAGE 12)

```
+
+                    I
+                    I
+                    I
+                 . *   * .
+             . *    IF     * .
+          *(IVECT(2,IDECK,ILES).NE.KCOD(4))
+        I * .                    . * I
+        I      * .          . *      I
+        I           * . *            I
+    - I           C I            + I
+   -------       -------        -------
+   I GOTO I      I     I        I     I
+   -------       -------        -------
+
+                    I
+                 -------
+                 I 5   I
+                 -------
+
+
+
+
  2 ++++++++CONTINUE
+
+          CALL FRP(RSCD,ISEQ,JTYPE,ICRTKL(I))
+
+       ***WRITE (IPT,3)
+
  3 +          FORMAT (1H ,'REQUESTED LESSON,SEGMENT AND TYPE DOES''T EXIST IN AIM
+          S LESSON DATA FILES. PLEASE RE-CHECK.',/1H0,' ABOVE CARD  REJECTED'
+          ,//)
+                    I
+             +------------+
777          + DO            +
++++++++++       4            +
+            + IN=1,65       +
+             +------------+
+                    I
+                    I
+          ----------------------------------------
  4 ++++++++[ OUTPUT(IN) =0                        I
+          I ISEQ =0                               I
+          ----------------------------------------
+                    I
+                    I
+                 -------
+                 I 9999I
+                 -------
+
+
+
+                    I
+          ----------------------------------------
  5 +          I ITY  =IVECT(3,IDECK,ILES)          I
+          ----------------------------------------
+                    I
+                    I
```

(CONTINUED ON PAGE 13)

```
+
+                  I
+                  I
+                  I
+              . *   * .
+          . *     IF      * .
+        *   (ITY.EQ.0)       *
+     1 * .                 . * 1
+     1      * .         . *     1
+     1          * . *           I
+  - 1           0 I           + I
+ -------       -------       -------
+ I ITY=I       I     I       I     I
+ -------       -------       -------
+
+                  I
+                  I
+              . *   * .
+          . *     IF      * .
+        *   (ITY.EQ.1)       *
+     1 * .                 . * 1
+     1      * .         . *     1
+     1          * . *           I
+  - I           0 I           + I
+ -------       -------       -------
+ 1 ITY=I       1     I       I     I
+ -------       -------       -------
+
+                  I
+        ----------------------------------------
+        I INUM =IVECT(4,IDECK,ILTS)             I
+        ----------------------------------------
+                  I
+                  I
+               -------
+               I 2000I
+               -------
+
+
+
+
+        CONTINUE
+                  I
+                  I
+              . *   * .
+          . *     IF      * .
+       *((RECD(10).NE.S).AND.(RECD(10).NE.D))
+ .   1 * .                 . * 1
+     I      * .         . *     1
+     1          * . *           I
+  - I           0 I           + I
+ -------       -------       -------
+ I     I       I     I       I     I
+ -------       -------       -------
+
+         CALL EPR(RECD,ISEQ,JTYPE,ICNTRL(1))
+                  I
```

(CONTINUED ON PAGE 14)

```
+
+                  I
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *((RECD(10).NE.S).AND.(RECD(10).NE.0))WRITE(IPT,1001)
+     I * .                  . * I
+     I     * .          . *     I
+     I          * . *           I
+  - I           0 I           + I
+ -------      -------      -------
+ I     I      I     I      I     I
+ -------      -------      -------
+
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *((RECD(10).NE.S).AND.(RECD(10).NE.0))
+     I * .                  . * I
+     I     * .          . *     I
+     I          * . *           I
+  - I           0 I           + I
+ -------      -------      -------
+ I GOTO(7777 I     I      I     I
+ -------      -------      -------
+
+
+1001      FORMAT (1H ,' NO  SINGLE OR DOUBLE INFORMATION IN HEADER CARD',/1
+         0,'ABOVE CARD REJECTED.',//)
+                  I
+         ----------------------------------------
+         I ITY  =RECD(10)                        I
+         I INUM =0                               I
+         ----------------------------------------
+                  I
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *((RECD(10).EQ.S).AND.(RECD(13).LE.48))
+     I * .                  . * I
+     I     * .          . *     I
+     I          * . *           I
+  - I           0 I           + I
+ -------      -------      -------
+ I INUMI2     I     I      I     I
+ -------      -------      -------
+
+                  I
```

(CONTINUED ON PAGE 15)

```
+
+                    I
+                    I
+                    I
+                . *   * .
+            . *     IF     * .
+        *((RECD(10).EQ.5).AND.(RECD(13).LE.24))
+      I * .                    . * I
+      I     * .            . *     I
+      I           * . *            I
+   - I            C I            + I
+ -------        -------        -------
+ I INUM1I       I     I        I     I
+ -------        -------        -------
+
+                    I
+                    I
+                . *   * .
+            . *     IF     * .
+        *((RECD(10).EQ.D).AND.(RECD(13).LE.48))
+      I * .                    . * I
+      I     * .            . *     I
+      I           * . *            I
+   - I            C I            + I
+ -------        -------        -------
+ I INUMI4       I     I        I     I
+ -------        -------        -------
+
+                    I
+                    I
+                . *   * .
+            . *     IF     * .
+        *((RECD(10).EQ.D).AND.(RECD(13).LE.36))
+      I * .                    . * I
+      I     * .            . *     I
+      I           * . *            I
+   - I            C I            + I
+ -------        -------        -------
+ I INUMI3       I     I        I     I
+ -------        -------        -------
+
+                    I
+                    I
+                . *   * .
+            . *     IF     * .
+        *((RECD(10).EQ.D).AND.(RECD(13).LE.24))
+      I * .                    . * I
+      I     * .            . *     I
+      I           * . *            I
+   - I            C I            + I
+ -------        -------        -------
+ I INUMI2       I     I        I     I
+ -------        -------        -------
+
+                    I
```

(CONTINUED ON PAGE 16)

```
+
+                    I
+                    I
+                    I
+              . *   * .
+          . *     IF      * .
+       *((RECD(10).EQ.0).AND.(RECD(13).LE.12))
+     I * .                    . * I
+     I      * .          . *      I
+     I           * . *            I
+   - I           0 I            + I
+ -------       -------       -------
+ I TOUT I     I       I     I       I
+ -------       -------       -------
+
+                    I
+                    I
+              . *   * .
+          . *     IF      * .
+       *(INUM.GT.1)RECD(6) *
+     I * .                    . * I
+     I      * .          . *      I
+     I           * . *            I
+   - I           0 I            + I
+ -------       -------       -------
+ I =INU(       I       I     I       I
+ -------       -------       -------
+
+                    I
+                    I
+              . *   * .
+          . *     IF      * .
+       *    (INUM.NE.0)      *
+     I * .                    . * I
+     I      * .          . *      I
+     I           * . *            I
+   - I           0 I            + I
+ -------       -------       -------
+ I GOTO1000    I       I     I       I
+ -------       -------       -------
+
+
+        CALL FRR(RECD,(SEQ,JTYPE,ICNTRL(1))
+
+     ***WRITE (IPT,1004)
+
 1004 +        FORMAT (1H ,'INVALID OR MISSING DATA FOR THE NUMBER OF RECORDS',/1
+        HO,'ABOVE RECORD REJECTED',//)
+                    I
+               -------
+               I 77771
+               -------
+
+
+
+
+                    I
```

(CONTINUED ON PAGE 17)

```
*** PROGRAM LISTING ACTUAL *** MODE .SE. VERSION 111 ***

      +
      +                I
      +
000   +        CONTINUE
      +                I
      +        ----------------------------------------
      +        I INDX =0                               I
      +        ----------------------------------------
      +                I
      +                I
      +           +------------+
      +          + DO           +
      ++++++++++  2001           +
      +          + IN=1,17      +
      +           +------------+
      +                I
      +                I
      +        ----------------------------------------
2001  ++++++++I OUTPUT(IN) =RECO(IN)                   I
      +        I ISTART =18                            I
      +        ----------------------------------------
      +                I
      +                I
      +                I
      +             . *   * .
      +         . *    IF     * .
      +       *   (ITY.EQ.S)       *
      +     1 * .                . * 1
      +     1     * .        . *     1
      +     1          * . *         1
      +   - I          0 I           + I
      + -------      -------      -------
      + I INCRI=24   I     I      I     I
      + -------      -------      -------
      +
      +                I
      +                I
      +             . *   * .
      +         . *    IF     * .
      +       *   (ITY.EQ.D)       *
      +     1 * .                . * 1
      +     1     * .        . *     1
      +     1          * . *         1
      +   - I          0 I           + I
      + -------      -------      -------
      + I INCRI=12   I     I      I     I
      + -------      -------      -------
      +
      +                I
      +           +------------+
      +          + DO           +
      ++++++++++  2002           +
      +          + IN=18,65     +
      +           +------------+
      +                I
      +                I
      +        ----------------------------------------
002   ++++++++I OUTPUT(IN) =0                         I
      +        ----------------------------------------
      +                I
```

(CONTINUED ON PAGE 18)

```
+
+                    I
+         ICNT=ICNT+1
+                    I
+                    I
+               . *   * .
+           . *     IF      * .
+        *       (DELFT)        *
+     I * .                  . * I
+     I      * .          . *     I
+     I           * . *          I
+   - I           O I          + I
+ -------       -------      -------
+ I INDTICNT I      I      I      I
+ -------       -------      -------
+
+                    I
+                    I
+               . *   * .
+           . *     IF      * .
+        *       (DELFT)        *
+     I * .                  . * I
+     I      * .          . *     I
+     I           * . *          I
+   - I           O I          + I
+ -------       -------      -------
+ I GOTOI006  I      I      I      I
+ -------       -------      -------
+
+                    I
+                    I
+               . *   * .
+           . *     IF      * .
+        *(ITY.EQ.5)CALLSINGLE(XFCD(1),NOR',VRMTY,RFCD(4),'DF')
+     I * .                  . * I
+     I      * .          . *     I
+     I           * . *          I
+   - I           O I          + I
+ -------       -------      -------
+ I     I       I     I      I     I
+ -------       -------      -------
+
+                    I
```

(CONTINUED ON PAGE 19)

```
+
+                    I
+                    I
+                    I
+                 . *   * .
+            . *     IF      * .
+        *(ITY.EQ.3)CALL[illegible] (SECD(IP),[illegible])
+      I * .                    . * I
+      I      * .          . *      I
+      I           * . *            I
+   - I            0 I            + I
+ -------        -------        -------
+ I     I        I     I        I     I
+ -------        -------        -------
+
+                    I
+          ----------------------------------------
+          I ISTART =100+((ICNT-1)*INCRI)          I
+          I IEND =ISTART+INCRI-1                  I
+          ----------------------------------------
+                    I
+                    I
+                    I
+                 . *   * .
+            . *     IF      * .
+        *( [illegible].EQ.-1)CALL[illegible](SECD,[illegible],ITYPE,ICATEL(I))
+      I * .                    . * I
+      I      * .          . *      I
+      I           * . *            I
+   - I            0 I            + I
+ -------        -------        -------
+ I     I        I     I        I     I
+ -------        -------        -------
+
+                    I
+                    I
+                 . *   * .
+            . *     IF      * .
+        *(NUM.EQ.-1)WRITE(IPT,2005)
+      I * .                    . * I
+      I      * .          . *      I
+      I           * . *            I
+   - I            0 I            + I
+ -------        -------        -------
+ I     I        I     I        I     I
+ -------        -------        -------
+
+
2005 +        FORMAT (1H ,'ERRORS IN QUESTION COLUMNS.',/1H ,' ABOVE CARD REJECT
+        ED',//)
+                    I
```

(CONTINUED ON PAGE 20)

```
+
+                I
+                I
+                I
+            . *   * .
+        . *    IF     * .
+      *   (NUM.EQ.-1)      *
+    I * .                . * I
+    I     * .        . *     .
+    I         * . *          I
+  - I         0 I          + I
+ -------     -------      -------
+ I GOTO17777 I     I      I     I
+ -------     -------      -------
+
+                I
+          +------------+
+         + 00           +
++++++++++  2004          +
+         + IN=ISTART,IEND
+          +------------+
+                I
+                I
+       ----------------------------------------
+       I IUN  =IN-((ICNT-1)*INC+1)              I
+       ----------------------------------------
+                I
+       ----------------------------------------
2004 ++++++++I OUTPUT(IN) =RECO(IUN)             I
+       I TNUM =TNUM+NUM                         I
+       I ISEQ =ISEQ+1                           I
+       ----------------------------------------
+                I
+                I
+                I
2006 +            . *   * .
+        . *    IF     * .
+      * (ICNT.LT.INUM)     *
+    I * .                . * I
+    I     * .        . *     I
+    I         * . *          I
+  - I         0 I          + I
+ -------     -------      -------
+ I RETURN    I     I      I     I
+ -------     -------      -------
+
+                I
+       ----------------------------------------
+       I OUTPUT(12) =TNUM                       I
+       ----------------------------------------
+                I
+                I
```

(CONTINUED ON PAGE 21)

```
+
+                    I
+                    I
+                    I
+                 . *   * .
+             . *    IF     * .
+         *(ITY.EQ.5)OUTPUT(10)
+       I * .                  . * I
+       I     * .          . *     I
+       I          * . *           I
+    - I           0 I           + I
+  -------       -------       -------
+  I =0  I       I     I       I     I
+  -------       -------       -------
+
+                    I
+                    I
+                 . *   * .
+             . *    IF     * .
+         *(ITY.EQ.0)OUTPUT(10)
+       I * .                  . * I
+       I     * .          . *     I
+       I          * . *           I
+    - I           0 I           + I
+  -------       -------       -------
+  I =1  I       I     I       I     I
+  -------       -------       -------
+
+                    I
+                    I
+                 . *   * .
+             . *    IF     * .
+         *(ICNTPL(2).NE.2)    *
+       I * .                  . * I
+       I     * .          . *     I
+       I          * . *           I
+    - I           0 I           + I
+  -------       -------       -------
+  I GOTO17777 I       I       I     I
+  -------       -------       -------
+
+
+      CONTINUE
+
+    ***WRITE (OUTAP) (OUTPUT(INK),INK=1,65)
+
+    ***WRITE(3,6003)(OUTPUT(IDUM),IDUM=1,65)
+
+      FORMAT(4(20I6,/))
+                    I
```

(CONTINUED ON PAGE 22)

```
+
+                I
+                I
+             -------
+             I 77771
+             -------
+
+
+
+
+        CONTINUE
+                I
+        ----------------------------------------
+        I CHARC(5) =ISAVE                       I
+        ----------------------------------------
+                I
+
+        CONTINUE
+
+     ***RETURN
+
+        END
+
+        SUBROUTINE ERRFR(PRCD,CHRRC,AREA,SEQ,JTYPE,ICTLL)
+
+        INTEGER SEQ
+
+        INTEGER*2 ICRES
+
+        INTEGER*2 JTYPE
+
+        INTEGER*2 PRCD(45),CHRRC(45),AREA(65)            ,INCOR(12)
+
+        INTEGER*2 DE,LE,T
+
+        INTEGER*2 SP
+
+        LOGICAL*1 CONTRL(45),CNTRL(45)
+
+        LOGICAL*1 DELET
+
+        LOGICAL*1 INTC,ILCOL,ACTION,P
+
+        LOGICAL*1 FALSE,TRUE
+
+        LOGICAL*1 NUMS
+
+        EQUIVALENCE(CNTRL(1),CONTRL(1))
+
+        COMMON /SYSTEM/NLCSS,NDECK,NREX,NQUEST,NSTUD
+
+        DATA SP/' '/
+
+        DATA DE/'DE'/,LE/'LE'/,T/'T'/
+                I
+        ----------------------------------------
+        I IERR =0                               I
+        I MIDDLE =0                             I
+        ----------------------------------------
+                I
```

(CONTINUED ON PAGE 23)


```
+
+                    I
+        ICPES=CHCRC(5)
+                    I
+        ----------------------------------------
+        I IPT  =3                               I
+        I NUMS =.FALSE.                         I
+        I FALSE=.FALSE.                         I
+        I TRUE =.TRUE.                          I
+        I P    =.FALSE.                         I
+        I ILCOL=.FALSE.                         I
+        I IMTC =.FALSE.                         I
+        I DELET=.FALSE.                         I
+        ----------------------------------------
+                    I
+                    I
+           +------------+
+          + DO          +
++++++++++      I        +
+          + N=1,45      +
+           +------------+
+                    I
+                    I
+        ----------------------------------------
I ++++++++I CONTRL(N) =.FALSE.                   I
+        ----------------------------------------
+                    I
+                    I
+                    I
+                . *   * .
+            . *    IF     * .
+        * (RECD(43).NE.0)    *
+      I * .                 . * I
+      I      * .         . *     I
+      I           * . *          I
+   - I            C I          + I
+ -------        -------       -------
+ I NUMSI.TRUEI      I       I      I
+ -------        -------       -------
+
+                    I
+                    I
+                . *   * .
+            . *    IF     * .
+        *(RECD(1).LE.0)CONTRL(1)
+      I * .                 . * I
+      I      * .         . *     I
+      I           * . *          I
+   - I            C I          + I
+ -------        -------       -------
+ I =.TRIE.      I      I       I      I
+ -------        -------       -------
+
+                    I
```

(CONTINUED ON PAGE 24)

```
+
+                    I
+                    I
+                    I
+                 . *   * .
+              . *    IF     * .
+          *(RECD(1).GT.NLESS)CONTROL(1)
+        I * .                  . * I
+        I     * .          . *     I
+        I          * . *           I
+    - I            0 I           + I
+  -------        -------       -------
+  I =.TRIE.      I     I       I     I
+  -------        -------       -------
+
+                    I
+                    I
+                 . *   * .
+              . *    IF     * .
+          *  (JTYPE.EQ.1)        *
+        I * .                  . * I
+        I     * .          . *     I
+        I          * . *           I
+    - I            0 I           + I
+  -------        -------       -------
+  I GOTO I       I     I       I     I
+  -------        -------       -------
+
+                    I
+                    I
+                 . *   * .
+              . *    IF     * .
+          *(RECD(2).GT.NSTUD)CONTRL(2)
+        I * .                  . * I
+        I     * .          . *     I
+        I          * . *           I
+    - I            0 I           + I
+  -------        -------       -------
+  I =.TRIE.      I     I       I     I
+  -------        -------       -------
+
+                    I
+                    I
+                 . *   * .
+              . *    IF     * .
+          *(RECD(2).LE.0)CONTRL(2)
+        I * .                  . * I
+        I     * .          . *     I
+        I          * . *           I
+    - I            0 I           + I
+  -------        -------       -------
+  I =.TRIE.      I     I       I     I
+  -------        -------       -------
+
+                    I
```

(CONTINUED ON PAGE 25)

```
  +
  +                  I
  +                  I
  +                  I
2 +             . *   * .
  +         . *     IF      * .
  +       *(RECD(3).LE.CHKRC(2))CONTRL(3)
  +     1 * .                 . * 1
  +     1      * .         . *      1
  +     1          * . *            1
  +   - I          0 I            + I
  + -------      -------      -------
  + I =.TRIE.    I     I      I     I
  + -------      -------      -------
  +
  +                  I
  +                  I
  +             . *   * .
  +         . *     IF      * .
  +       *(RECD(4).LE.0)CONTRL(4)
  +     1 * .                 . * 1
  +     1      * .         . *      1
  +     1          * . *            1
  +   - I          0 I            + I
  + -------      -------      -------
  + I =.TRIE.    I     I      I     I
  + -------      -------      -------
  +
  +                  I
  +                  I
  +             . *   * .
  +         . *     IF      * .
  +       *(RECD(3).GT.CHKRC(2))CONTRL(3)
  +     1 * .                 . * 1
  +     1      * .         . *      1
  +     1          * . *            1
  +   - I          0 I            + I
  + -------      -------      -------
  + I =.TRIE.    I     I      I     I
  + -------      -------      -------
  +
  +                  I
  +                  I
  +             . *   * .
  +         . *     IF      * .
  +       *(RECD(5).NE.CHKRC(5))CONTRL(5)
  +     1 * .                 . * 1
  +     1      * .         . *      1
  +     1          * . *            1
  +   - I          0 I            + I
  + -------      -------      -------
  + I =.TRIE.    I     I      I     I
  + -------      -------      -------
  +
  +                  I
```

(CONTINUED ON PAGE 26)

```
+
+                    I
+                    I
+                    I
+                 . *   * .
+            . *    IF     * .
+         *(RECD(6).NE.(SEQ+1))CONTPL(6)
+       1 * .                  . * 1
+       1      * .          . *     1
+       1            * . *          I
+    - 1 .           0 I          + I
+ -------        -------      -------
+ I ERRIE.       I     I      I     I
+ -------        -------      -------
+
+                    I
+                    I
+                 . *   * .
+            . *    IF     * .
+         *((RECD(7).EQ.DE).AND.(RECD(8).EQ.LE).AND.(RECD(9).EQ.T))
+       1 * .                  . * 1
+       1      * .          . *     1
+       1            * . *          1
+    - 1             0 I          + I
+ -------        -------      -------
+ I DELETI=      I     I      I     I
+ -------        -------      -------
+
+          .TRUE.
+                    I
+                    I
+                 . *   * .
+            . *    IF     * .
+         *      (DELET)        *
+       1 * .                  . * 1
+       1      * .          . *     1
+       1            * . *          I
+    - I             0 I          + I
+ -------        -------      -------
+ I GOTOI        I     I      I     I
+ -------        -------      -------
+
+                    I
```

(CONTINUED ON PAGE 27)

```
+
+                  I
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+        *  (JTYPE.NE.2)      *
+     I * .                  . * I
+     I      * .         . *     I
+     I          * . *           I
+  - I           0 I            + I
+ -------       -------        -------
+ I GOTO I      I     I        I     I
+ -------       -------        -------
+
+                  I
+               -------
+               I 4   I
+               -------
+
+
+
+
+                  I
+                  I
3 +              . *   * .
+          . *    IF     * .
+        *((RECD(7)+RECD(8)+RECD(9)).EQ.0)CONTRL(4)
+     I * .                  . * I
+     I      * .         . *     I
+     I          * . *           I
+  - I           0 I            + I
+ -------       -------        -------
+ I =.TRIC.     I     I        I     I
+ -------       -------        -------
+
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+        *((JTYPE.EQ.1).AND.(RECD(10).EQ.59))CONTRL(10)
+     I * .                  . * I
+     I      * .         . *     I
+     I          * . *           I
+  - I           0 I            + I
+ -------       -------        -------
+ I =.TRIF.     I     I        I     I
+ -------       -------        -------
+
+                  I
```

(CONTINUED ON PAGE 28)

```
+
+                    I
+                    I
+                    I
+               . *   * .
+           . *    IF     * .
+       *((JTYPE.EQ.1).AND.((RECD(11).LE.0).OR.(RECD(11).GT.(24*5
+     I * .                  . * I
+     I      * .         . *     I
+     I          * . *           I
+  - I           0 I            + I
+ -------       -------        -------
+ I     I       I     I        I     I
+ -------       -------        -------
+
+         ))CONTRL(11)=.TRUE.
+                    I
+                    I
+               . *   * .
+           . *    IF     * .
+       *((JTYPE.EQ.1).AND.((RECD(13).LE.0).OR.(RECD(13).GT.(24*5
+     I * .                  . * I
+     I      * .         . *     I
+     I          * . *           I
+  - I           0 I            + I
+ -------       -------        -------
+ I     I       I     I        I     I
+ -------       -------        -------
+
+         )CONTRL(13)=.TRUE.
+                    I
+                    I
4 +               . *   * .
+           . *    IF     * .
+       * (RECD(44).NE.0)    *
+     I * .                  . * I
+     I      * .         . *     I
+     I          * . *           I
+  - I           0 I            + I
+ -------       -------        -------
+ ( ILCOI=.TRUE.     I        I     I
+ -------       -------        -------
+
+                    I
```

(CONTINUED ON PAGE 29)

```
+
+                    I
+                    I
+                    I
+                 . *   * .
+             . *    IF     * .
+          *   (SEQ.EQ.0)       *
+      I * .                  . * I
+      I     * .          . *     I
+      I          * . *           I
+   - I           0 I            + I
+ -------       -------        -------
+ I GOTO100     I     I        I     I
+ -------       -------        -------
+
+                    I
+                    I
+                 . *   * .
+             . *    IF     * .
+          *  (JTYPE.EQ.1)      *
+      I * .                  . * I
+      I     * .          . *     I
+      I          * . *           I
+   - I           0 I            + I
+ -------       -------        -------
+ I INDEI=10    I     I        I     I
+ -------       -------        -------
+
+                    I
+                    I
+                 . *   * .
+             . *    IF     * .
+          *  (JTYPE.EQ.2)      *
+      I * .                  . * I
+      I     * .          . *     I
+      I          * . *           I
+   - I           0 I            + I
+ -------       -------        -------
+ I INDEI=9     I     I        I     I
+ -------       -------        -------
+
+                    I
+              +-----------+
+            + DO          +
++++++++++        5         +
+           + I=1,5         +
+              +-----------+
+                    I
+                    I
```

(CONTINUED ON PAGE 30)

```
+
+                    I
+                    I
+                    I
+              . *   * .
+          . *     IF      * .
+       *(RECD(I).NE.AREA(I))
+     I * .                  . * I
+     I      * .         . *     I
+     I           * . *          I
+  - I           0 I           + I
+ -------       -------       -------
+ I  IERRITERR+I      I       I      I
+ -------       -------       -------
+
+
5 ++++++++CONTINUE
+                    I
+            +------------+
+           + DO            +
++++++++++      6            +
+           + I=7,INDEX     +
+            +------------+
+                    I
+                    I
+                    I
+              . *   * .
+          . *     IF      * .
+       *(RECD(I).NE.AREA(I))
+     I * .                  . * I
+     I      * .         . *     I
+     I           * . *          I
+  - I           0 I           + I
+ -------       -------       -------
+ I  IERRITERR+I      I       I      I
+ -------       -------       -------
+
+
6 ++++++++CONTINUE
+                    I
+                    I
+              . *   * .
+          . *     IF      * .
+       *   (IERR.EQ.0)      *
+     I * .                  . * I
+     I      * .         . *     I
+     I           * . *          I
+  - I           0 I           + I
+ -------       -------       -------
+ I  IMTCI.FALSI.      I       I      I
+ -------       -------       -------
+
+                    I
```

(CONTINUED ON PAGE 31)

```
*** 2 2  LOGIC MANUAL  ****  ...  V  I . III  ****
+
+                  I
+                  I
+            +------------+
100 +          + DO          +
++++++++++   101            +
+          + I=1,45        +
+            +------------+
+                  I
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *(.NOT.COMPL(I))    *
+     1 * .                . * 1
+     1      * .       . *      1
+     1          * . *          1
+   - 1          0 1          + 1
+ -------      -------      -------
+ I GOTO101    I     I      I     I
+ -------      -------      -------
+
+                  I
+               -------
+               I 102 I
+               -------
+
+
+
+
101 ++++++++CONTINUE
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *     (ILCOL)        *
+     1 * .                . * 1
+     1      * .       . *      1
+     1          * . *          1
+   - 1          0 1          + 1
+ -------      -------      -------
+ I GOTO102    I     I      I     I
+ -------      -------      -------
+
+                  I
```

(CONTINUED ON PAGE 32)

```
+
+                I
+                I
+                I
+            . *   * .
+        . *    IF     * .
+      *      (INTC)        *
+    I * .                . * I
+    I      * .        . *     I
+    I          * . *         I
+  - I          0 I         + I
+ -------      -------      -------
+ I GOTO2     I     I      I     I
+ -------      -------      -------
+
+                I
+                I
+            . *   * .
+        . *    IF     * .
+      *      (NUMS)        *
+    I * .                . * I
+    I      * .        . *     I
+    I          * . *         I
+  - I          0 I         + I
+ -------      -------      -------
+ I GOTOI02    I     I      I     I
+ -------      -------      -------
+
+                I
+             -------
+             I 7000I
+             -------
+
+
+
+
+
+        ENTRY ERR(RECD, SEQ,JTYPE,ICRES)
+                  I
+        ----------------------------------------
+        I MIDDLE =1                            I
+        ----------------------------------------
+                  I
+
 102    CALL INFO(INFORM)
+
+     ***WRITE (IPT,103) INFORM,RECD(45),SEQ,RECD(6),JTYPE
+
 103    FORMAT (1H0,/1H ,'**** CARD IN ERROR **** JOB NAME ',4A2,5X,'DATE-
         ',4A2,5X,'TIME- ',4A2,'  **********PHYSICAL RECORD - ',I3,/1H ,
        'PREVIOUS SEQUENCE NO.= ',I2,' CARD SEQUENCE NO.= ',I2,'  TYPE OF
         CARDS = ',I1,' (1=HEADER,2=STUDENT    ) ' )
+
+     ***WRITE (IPT,117) ICRES   ,RECD(5),RECD(1),RECD(3),RECD(4)
+
 117    FORMAT (1H ,'COURSE BEING PROCESSED = ',I2,' COURSE NUMBER ON CARD
         = ',I2,' LESSON = ',I2,' SEGMENT = ',I2,' TYPE = ',I2)
+                  I
```

(CONTINUED ON PAGE 33)

```
***  P.S. OF LOGIC MANUAL  ***  J.I. ... VERSI   II   ***
+
+                I
+                I
+                I
+            . *   * .
+         . *    IF     * .
+       *(JTYP.EQ.1)WRITE(IPT,116)RECD(13),RECD(11),(RECD(I),I=6,
+    I * .                  . * I
+    I      * .         . *     I
+    I          * . *           I
+  - I          0 I           + I
+ -------      -------       -------
+ I     I      I     I       I     I
+ -------      -------       -------
+
+       RECD(10)
+
116 +       FORMAT (1H ,'NUMBER OF QUESTIONS = ',I2,' NUMBER OF SELECTIONS '
+       ,I3,' I.D.FIELD = ',3A2,' (S) OR (O) = ',A1)
+                I
+                I
+            . *   * .
+         . *    IF     * .
+       *(JTYP.EQ.2)WRITE(IPT,119)RECD(9),(RECD(I),I=7,9),RECD(14)
+    I * .                  . * I
+    I      * .         . *     I
+    I          * . *           I
+  - I          0 I           + I
+ -------      -------       -------
+ I     I      I     I       I     I
+ -------      -------       -------
+
+       RECD(15),RECD(13),RECD(16),RECD(17)
+
119 +       FORMAT (1H ,'COURSE STUDENT NUMBER = ',I3,' STUDENT I.D. ',
+        '3A2,' DATE ON CARD = ',I2,'/',I2,'/',I2,' TIME ON CARD = ',I2,
+       '.',I2)
+
+    ***WRITE (IPT,121)
+
121 +       FORMAT (1H ,'------------------- E R R O R S  -------------------
+       ----------------------------------------------------------',/)
+                I
+                I
+            . *   * .
+         . *    IF     * .
+       *  (MIDDLE.EQ.1)     *
+    I * .                  . * I
+    I      * .         . *     I
+    I          * . *           I
+  - I          0 I           + I
+ -------      -------       -------
+ I RETURN     I     I       I     I
+ -------      -------       -------
+
+                I
```

(CONTINUED ON PAGE 34)

```
+
+                    I
+                    I
+                    I
+                 . *   * .
+              . *    IF     * .
+         *(DELST)WRITE(IPT,116)
+       I * .                  . * I
+       I      * .          . *     I
+       I         * . *             I
+    - I            0 I            + I
+  -------        -------        -------
+  I     I        I     I        I     I
+  -------        -------        -------
+
+
116 +        FORMAT (1H ,'THIS SECOND FAC[illegible] DELT.[illegible])
+                    I
+                    I
+                 . *   * .
+              . *    IF     * .
+         *(CONTRL(1))WRITE(IPT,104)
+       I * .                  . * I
+       I      * .          . *     I
+       I         * . *             I
+    - I            0 I            + I
+  -------        -------        -------
+  I     I        I     I        I     I
+  -------        -------        -------
+
+
104 +        FORMAT (1H ,'LESSON NUMBER MISSING,UNINTELLIGIBLE [illegible] MISMATCH.')
+                    I
+                    I
+                 . *   * .
+              . *    IF     * .
+         *(CONTRL(2))WRITE(IPT,105)
+       I * .                  . * I
+       I      * .          . *     I
+       I         * . *             I
+    - I            0 I            + I
+  -------        -------        -------
+  I     I        I     I        I     I
+  -------        -------        -------
+
+
105 +        FORMAT (1H ,'COURSE STUDENT NUMBER MISSING,UNRECOGNIZABLE [illegible]
+        DS SYSTEM LIMITATION NSTUD.')
+                    I
```

(CONTINUED ON PAGE 35)

```
***  PROGRAM LOGIC MANUAL  ***  A.I.P.S. VERSION III   *****
+
+                    I
+                    I
+                    I
+                 . *   * .
+            . *    IF     * .
+          *(CONTRL(3))WRITE(IPT,106)
+       I * .                  . * I
+       I     * .          . *     I
+       I          * . *           I
+    - I           0 I           + I
+  -------       -------       -------
+  I     I       I     I       I     I
+  -------       -------       -------
+
+
106 +        FORMAT (1H ,'SEGMENT NUMBER MISSING,MISPUNCHED OR UNRECOGNIZABLE,'
+        R PREVIOUS CARDS IN RECORD PAD.')
+                    I
+                    I
+                 . *   * .
+            . *    IF     * .
+          *(CONTRL(4))WRITE(IPT,107)
+       I * .                  . * I
+       I     * .          . *     I
+       I          * . *           I
+    - I           0 I           + I
+  -------       -------       -------
+  I     I       I     I       I     I
+  -------       -------       -------
+
+
107 +        FORMAT (1H ,'CARD TYPE NUMBER MISSING O. UNRECOGNIZABLE.')
+                    I
+                    I
+                 . *   * .
+            . *    IF     * .
+          *(CONTRL(5))WRITE(IPT,108)
+       I * .                  . * I
+       I     * .          . *     I
+       I          * . *           I
+    - I           0 I           + I
+  -------       -------       -------
+  I     I       I     I       I     I
+  -------       -------       -------
+
+
108 +        FORMAT (1H ,'COURSE NUMBER NOT AS PER SYSTEM SPECIFICATIONS')
+                    I
```

(CONTINUED ON PAGE 36)

```
      +
      +                I
      +                I
      +                I
      +            . *   * .
      +        . *    IF     * .
      +      *(CONTRL(6))WRITE(IPT,100)
      +    I * .                . * I
      +    I     * .        . *     I
      +    I         * . *          I
      +  - I         0 I          + I
      + -------     -------      -------
      + I     I     I     I      I     I
      + -------     -------      -------
      +
      +
  100 +      FORMAT(1H ,'SEQUENCE NUMBER MISSING OR BAD,    [illegible] I
      +      N THIS RECORD BAD.')
      +                I
      +                I
      +            . *   * .
      +        . *    IF     * .
      +      *(CNTRL(9).AND.(JTYPE.EQ.2))WRITE(IPT,110)
      +    I * .                . * I
      +    I     * .        . *     I
      +    I         * . *          I
      +  - I         0 I          + I
      + -------     -------      -------
      + I     I     I     I      I     I
      + -------     -------      -------
      +
      +
  110 +      FORMAT (1H ,'DATA IN I.D. NUMBER AREA BAD OR MISSING-STUDENT [illegible]')
      +                I
      +                I
      +            . *   * .
      +        . *    IF     * .
      +      *(CNTRL(10).AND.(JTYPE.EQ.1))WRITE(IPT,111)
      +    I * .                . * I
      +    I     * .        . *     I
      +    I         * . *          I
      +  - I         0 I          + I
      + -------     -------      -------
      + I     I     I     I      I     I
      + -------     -------      -------
      +
      +
  111 +      FORMAT (1H ,'DATA IN I.D. NUMBER AREA BAD OR MISSING-HEADER [illegible]')
      +                I
```

(CONTINUED ON PAGE 37)

```
*** PROGRAM LOGIC MANUAL  ***  T.I. .S. VERSION III  ***
+
+                  I
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *(CNTRL(11))WRITE(IPT,112)
+     I * .                . * I
+     I      * .        . *     I
+     I          * . *          I
+  - I           0 I          + I
+ -------      -------      -------
+ I     I      I     I      I     I
+ -------      -------      -------
+
+
112 +       FORMAT (1H ,'NUMBER OF SELECTIONS NOT AS PER SPECIFICATIONS.')
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *(CNTRL(13))WRITE(IPT,113)
+     I * .                . * I
+     I      * .        . *     I
+     I          * . *          I
+  - I           0 I          + I
+ -------      -------      -------
+ I     I      I     I      I     I
+ -------      -------      -------
+
+
113 +       FORMAT (1H ,'NUMBER OF QUESTIONS  NOT AS PER SPECIFICATIONS.')
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *(ILCOL)WRITE(IPT,114)PECO(44)
+     I * .                . * I
+     I      * .        . *     I
+     I          * . *          I
+  - I           0 I          + I
+ -------      -------      -------
+ I     I      I     I      I     I
+ -------      -------      -------
+
+
114 +       FORMAT (1H ,'ILLEGAL USE OF ODD-NUMBERED COLUMNS-',I4,'-TIME(S).')
+                  I
```

(CONTINUED ON PAGE 38)

```
     +
     +                I
     +                I
     +                I
     +            . *   * .
     +         . *    IF     * .
     +      *(INTC)WRITE(IPT,115)
     +    I * .                 . * I
     +    I      * .        . *     I
     +    I          * . *          I
     +  - I          O I          + I
     + -------      -------      -------
     + I IFRT I     I     I      I     I
     + -------      -------      -------
     +
     +
115  +       FORMAT (1H ,I2,' OCCASIONS IN WHICH CARD'S IDENTIFICATION HAS BEEN
     +        MIS-MATCHED WITH THE REMAINDER OF THIS RECORD.')
     +                I
     +                I
     +            . *   * .
     +         . *    IF     * .
     +      *(NUMS)WRITE(IPT,120)RECD(43)
     +    I * .                 . * I
     +    I      * .        . *     I
     +    I          * . *          I
     +  - I          O I          + I
     + -------      -------      -------
     + I     I      I     I      I     I
     + -------      -------      -------
     +
     +
120  +       FORMAT (1H ,'MISPUNCHED NUMERIC COLUMNS FOUND - ',I3, ' ITEMS.',/)
     +                I
     +       ----------------------------------------
     +       I ACTION =.FALSE.                      I
     +       ----------------------------------------
     +                I
     +                I
     +             -------
     +             I 7001I
     +             -------
     +
     +
     +
     +       .        I
     +       ----------------------------------------
300  +       I ACTION =TRUE                         I
     +       ----------------------------------------
     +                I
     +                I
```

(CONTINUED ON PAGE 39)

```
+
+                    I
+                    I
+                    I
+              . *   * .
+          . *     IF     * .
+       *((JTYPE.EQ.2).AND.((RECD(13).LT.0).OR.(RECD(13).GT.9)))
+     I * .                    . * I
+     I       * .         . *      I
+     I           * . *            I
+   - I           0 I            + I
+ -------       -------        -------
+ I P=.TIUC     I     I        I     I
+ -------       -------        -------
+
+         .
+                    I
+                    I
+              . *   * .
+          . *     IF     * .
+       *((JTYPE.EQ.2).AND.((RECD(14).LT.0).OR.(RECD(14).GT.12)))
+     I * .                    . * I
+     I       * .         . *      I
+     I           * . *            I
+   - I           0 I            + I
+ -------       -------        -------
+ I P=.TIUF     I     I        I     I
+ -------       -------        -------
+
+         .
+                    I
+                    I
+              . *   * .
+          . *     IF     * .
+       *((JTYPE.EQ.2).AND.((RECD(15).LT.0).OR.(RECD(15).GT.41)))
+     I * .                    . * I
+     I       * .         . *      I
+     I           * . *            I
+   - I           0 I            + I
+ -------       -------        -------
+ I P=.TIUF     I     I        I     I
+ -------       -------        -------
+
+         .
+                    I
```

(CONTINUED ON PAGE 40)

```
+
+                    I
+                    I
+                    I
+              . *   * .
+          . *    IF     * .
+       *((JTYPE.EQ.2).AND.((RECD(16).LT.3).OR.(RECD(17).GT.50)))
+     I * .                    . * I
+     I      * .         . *      I
+     I           * . *           I
+  - I           0 I           + I
+ -------       -------       -------
+ I P=.TIUE     I     I       I     I
+ -------       -------       -------
+
+        .
+                    I
+                    I
+              . *   * .
+          . *    IF     * .
+       *((JTYPE.EQ.2).AND.((RECD(17).LT.0).OR.(RECD(16).GT.50)))
+     I * .                    . * I
+     I      * .         . *      I
+     I           * . *           I
+  - I           0 I           + I
+ -------       -------       -------
+ I P=.TIUE     I     I       I     I
+ -------       -------       -------
+
+        .
+                    I
+                    I
+              . *   * .
+          . *    IF     * .
+       *    (.NOT.P)          *
+     I * .                    . * I
+     I      * .         . *      I
+     I           * . *           I
+  - I.          0 I           + I
+ -------       -------       -------
+ I GOTOI000    I     I       I     I
+ -------       -------       -------
+
+                    I
```

(CONTINUED ON PAGE 41)

```
+
+                    I
+                    I
+                    I
+               . *  * .
+            . *    IF     * .
+         *(ACTION)CALLINFO(INFORM)
+      I * .                 . * I
+      I      * .        . *     I
+      I          * . *          I
+   - I           0 I          + I
+ -------       -------      -------
+ I     I       I     I      I     I
+ -------       -------      -------
+
+                    I
+                    I
+               . *  * .
+            . *    IF     * .
+         *(ACTION)WRITE(IPT,103)INFORM,RECD(45),SEQ,RECD(6)
+      I * .                 . * I
+      I      * .        . *     I
+      I          * . *          I
+   - I           C I          + I
+ -------       -------      -------
+ I     I       I JTYPI      I     I
+ -------       -------      -------
+
+                    I
+                    I
+               . *  * .
+            . *    IF     * .
+         *(P)WRITE(IPT,7999) *
+      I * .                 . * I
+      I      * .        . *     I
+      I          * . *          I
+   - I           0 I          + I
+ -------       -------      -------
+ I     I       I     I      I     I
+ -------       -------      -------
+
+
7999 +       FORMAT (1H ,'ERRORS IN YEAR,MONTH,DAY,HOURS OR MINUTES COLUMNS - :
+            RRORS IGNORED.')
+                    I
```

(CONTINUED ON PAGE 42)

```
     +
     +                I
     +                I
     +                I
1000 +            . *   * .
     +         . *    IF     * .
     +      *(ACTION.AND.P)WRITE(IPT,8001)
     +    L * .                . * L
     +    L      . .        . *     L
     +    L          * . *          I
     +  - I          0 I          + I
     + -------      -------      -------
     + I     I      I     I      I     I
     + -------      -------      -------
     +
     +
1001 +       FORMAT (1H0,'**** ABOVE CARD ACCEPTED DESPITE ERROR. ****',////)
     +                I
     +                I
     +            . *   * .
     +         . *    IF     * .
     +      +(.NOT.ACTION)WRITE(IPT,8002)
     +    L * .                . * L
     +    L      * .        . *     L
     +    L          * . *          I
     +  - I          0 I          + I
     + -------      -------      -------
     + I     I      I     I      I     I
     + -------      -------      -------
     +
     +
1002 +       FORMAT (1H0,'**** ABOVE CARD HAS BEEN REJECTED **** PLEASE NOTE THA
     +       AT IT A MULTI-CARD RECORD,THIS WILL CAUSE OTHER ERRORS **',//////)
     +                I
     +                I
     +            . *   * .
     +         . *    IF     * .
     +      *     (ACTION)       *
     +    L * .                . * L
     +    L      * .        . *     L
     +    L          * . *          I
     +  - I          0 I          + I
     + -------      -------      -------
     + I GOTO10000  I     I      I     I
     + -------      -------      -------
     +
     +                I
     +           +------------+
     +          + DO          +
     +++++++++++  8003         +
     +          + IN=1,65     +
     +           +------------+
     +                I
     +                I
     +        ----------------------------------------
1003 ++++++++I AREA(IN) =0                            I
     +        ----------------------------------------
     +                I
```

(CONTINUED ON PAGE 42)

```
+
+                    I
+        S[illegible]
+
+     ***RETURN
+
+        END
+
+        SUBROUTINE SHUBLE(AREA,NUM)
+
+        INTEGER*2 SHIFTS
+
+        INTEGER*2 AREA(12)
+                    I
+        ----------------------------------------
+        I NUM  =0                              I
+        ----------------------------------------
+                    I
+                    I
+           +------------+
+          + DO          +
++++++++++   200          +
+          + ISP=1,12    +
+           +------------+
+                    I
+                    I
+                    I
+              . *   * .
+         . *     IF     * .
+       *(SHIFTS(AREA(ICR),RIGHT,LC).NE.0)
+     I * .                  . * I
+     I      * .         . *     I
+     I           * . *          I
+  - I            0 I          + I
+ -------        -------      -------
+ I NUM=II       I     I      I     I
+ -------        -------      -------
+
+                    I
+                    I
+              . *   * .
+         . *     IF     * .
+       *    (NUM.EQ.-1)      *
+     I * .                  . * I
+     I      * .         . *     I
+     I           * . *          I
+  - I            0 I          + I
+ -------        -------      -------
+ I GOTO199      I     I      I     I
+ -------        -------      -------
+
+
+        CONTINUE
+                    I
```

(CONTINUED ON PAGE 44)

```
+
+                    I
+                    I
+              +------------+
+            + DO           +
++++++++++     100          +
+            + IQUES=1,12   +
+              +------------+
+                    I
+                    I
+          ----------------------------------------
+          I AREA(IQUES) =SHIFTS(AREA(IQUES),LEFT,1)
+          ----------------------------------------
+                    I
+                    I
+                    I
+                . *   * .
+            . *     IF     * .
+          *(AREA(IQUES).NE.1) *
+      I * .                  . * I
+      I     * .          . *     I
+      I          * . *          I
+   - I           * I           ( I
+ -------       -------       -------
+ I NUM=NUM+1 I       I       I       I
+ -------       -------       -------
+
+
+          CONTINUE
+
900 +      ***RETURN
+
+          END
+
+          SUBROUTINE SINGLE(AREA,NORM,NRMTY,ITYPE,NUM)
+
+          INTEGER RIGHT,LEFT
+
+          INTEGER*2  NORM,NRMTY,ITYPE
+
+          INTEGER*2 SHIFTS
+
+          INTEGER*2 AREA(24)
+
+          INTEGER*2 SAVE(24)
+
+          INTEGER*2 HICDE,LWCDE
+
+          INTEGER*2 CODE
+                    I
+          ----------------------------------------
+          I LEFT =1                              I
+          I RIGHT=2                              I
+          I IPT  =3                              I
+          I NUM  =0                              I
+          ----------------------------------------
+                    I
```

(CONTINUED ON PAGE 45)

```
+
+                  I
+                  I
+            +------------+
+          + DO            +
++++++++++   999            +
+          + IN=1,24       +
+            +------------+
+                  I
+                  I
+        ----------------------------------------
++++++++I SAVE(IN) =0                            I
+        ----------------------------------------
+                  I
+
+        DO 10000 ICUHS=1,12
+                  I
+        ----------------------------------------
+        I CODE VARIA(IGUES)                      I
+        ----------------------------------------
+                  I
+                  I
+                  I
+              . *   * .
+          . *    IF      * .
+       *   (WORM.EQ.5)      *
+    I * .                 . * I
+    I      * .        . *     I
+    I           * . *         I
+  - I           0 I           + I
+ -------       -------       -------
+ I GOTO100     I     I       I     I
+ -------       -------       -------
+
+                  I
+                  I
+              . *   * .
+          . *    IF      * .
+       *   (WORM.EQ.4)      *
+    I * .                 . * I
+    I      * .        . *     I
+    I           * . *         I
+  - I           0 I           + I
+ -------       -------       -------
+ I GOTO100     I     I       I     I
+ -------       -------       -------
+
+
+     ***WRITE (IPT,1)
+
+        FORMAT (1H ,'ILLEGAL NORMAL CARD TYPE CODE- SINGLE.',/)
+
+        CALL EXIT
+                  I
```

(CONTINUED ON PAGE 46)

```
      +
      +                  I
      +                  I
      +                  I
  10  +             . *   * .
      +          . *    IF     * .
      +++++++*(NRMTY.EQ.ITYPE)    *
      +     1 * .                 . * I
      +     I      * .          . *     I
      +     I          * . *           I
      +  - I            0 I.           + I
      + -------       -------       -------
      + I GOTO1000    I     I       I     I
      + -------       -------       -------
      +
      +                  I
      +               -------
      +               I 10001
      +               -------
      +
      +
      +
      +                  I
      +                  I
 200  +             . *   * .
      +          . *    IF     * .
      +++++++*(NRMTY.EQ.ITYPE)    *
      +     1 * .                 . * I
      +     I      * .          *     I
      +     I          * . *           I
      +  - I            0 I           + I
      + -------       -------       -------
      + I GOTO1000    I     I       I     I
      + -------       -------       -------
      +
      +                  I
      +               -------
      +               I 20001
      +               -------
      +
      +
      +
      +
      +        CONTINUE
      +                 I
      +        ---------------------------------------
      +        I HICDE=SHIFTS(CODE,RIGHT,5)           I
      +        I LWCDE=CODE-SHIFTS(HICDE,LEFT,5)      I
      +        I HICDE=SHIFTS(HICDE,LEFT,1)+1         I
      +        I LWCDE=SHIFTS(LWCDE,LEFT,1)+1         I
      +        ---------------------------------------
      +                  I
      +                  I
```

(CONTINUED ON PAGE 47)

```
+
+                I
+                I
+             -------
+             I 30001
+             -------
+
+
+
+
 300  +       CONTINUE
+                I
+       ----------------------------------------
+       I HICDE=SHIFTS(CODE,RIGHT,5)            I
+       I LWCDE=CODE-SHIFTS(HICDE,LEFT,5)       I
+       I HICDE=SHIFTS(HICDE,RIGHT,1)           I
+       I LWCDE=SHIFTS(LWCDE,RIGHT,1)           I
+       I HICDE=SHIFTS(HICDE,LEFT,1)+1          I
+       I LWCDE=SHIFTS(LWCDE,LEFT,1)+1          I
+       ----------------------------------------
+                I
+                I
+             -------
+             I 30001
+             -------
+
+
+
+
 1000 +       CONTINUE
+
+       SAVE(2*IQUES-1)=LWCDE
+                I
+       ----------------------------------------
+       I SAVE(2*IQUES) =HICDE                  I
+       ----------------------------------------
+                I
+
+       CONTINUE
+                I
+          +------------+
+          + DO         +
++++++++++   997        +
+          + IERR=1,12  +
+          +------------+
+                I
+                I
```

(CONTINUED ON PAGE 43)

```
+
+                    I
+                    I
+                    I
+              . * .  * .
+          . *     IF      * .
+       * (SHIFTS(NCA(IEKR),(IGM1,I2).NE.0)
+     I * .                    . * I
+     I      * .          . *      I
+     I           * . *            I
+   - I           0 I            + I
+ -------       -------       -------
+ I NUM=I1      I     I       I     I
+ -------       -------       -------
+
+                    I
+                    I
+              . *  * .
+          . *     IF      * .
+       *  (NUM.EQ.-1)        *
+     I * .                    . * I
+     I      * .          . *      I
+     I           * . *            I
+   - I           0 I            + I
+ -------       -------       -------
+ I GOTO1992    I     I       I     I
+ -------       -------       -------
+
+
./00 +        CONTINUE
+                    I
+            +------------+
+          + DO            +
++++++++++   998           +
+          + IN=1,24       +
+            +------------+
+                    I
+                    I
+                    I
+              . *  * .
+          . *     IF      * .
+       * (SAVE(IN).GT.1)    *
+     I * .                    . * I
+     I      * .          . *      I
+     I           * . *            I
+   - I           0 I            + I
+ -------       -------       -------
+ I NUM=IUM+1   I     I       I     I
+ -------       -------       -------
+
+                    I
+         ----------------------------------------
+         I AREA(IN) =SAVE(IN)                    I
+         ----------------------------------------
+                    I
+                    I
```

(CONTINUED ON PAGE 49)

```
*** PROGRAM LOGIC FLOW DIAGRAM ***  [illegible]
+
+                    I
+
300 +        CONTINUE
+
+     ***RETURN
+
+        END
+
+        FUNCTION NUMBER(ICODE)
+
+        INTEGER*2 ICODE,NUMBER
+
+        INTEGER*2 IESTP(10)
+
+        DATA IPSTR/512,256,128,64,32,16,8,4,2,1/
+                 I
+                 I
+             . *   * .
+          . *    IF     * .
+       *  (ICODE.EQ.0)      *
+     I * .                . * I
+     I     * .        . *     I
+     I          * . *         I
+  - I          0 I          + I
+ -------      -------      -------
+ I NUMBER=NUMBER-NUMBER  I      I
+ -------      -------      -------
+
+                 I
+                 I
+             . *   * .
+          . *    IF     * .
+       *  (ICODE.EQ.0)      *
+     I * .                . * I
+     I     * .        . *     I
+     I          * . *         I
+  - I          0 I          + I
+ -------      -------      -------
+ I GOTO1000  I      I      I      I
+ -------      -------      -------
+
+                 I
+           +------------+
+          + DO            +
++++++++++     2            +
+          + N=1,10        +
+           +------------+
+                 I
+                 I
```

(CONTINUED ON PAGE 50)

```
+
+                I
+                I
+                I
+            . *   * .
+         . *    IF     * .
+      *(ICODE.EQ.IFST*(N))*
+    I * .                 . * I
+    I      * .        . *      I
+    I          * . *           I
+  - I          * I             + I
+ -------      -------      -------
+ I GOTO I     I     I      I     I
+ -------      -------      -------
+
+
2 ++++++++CONTINUE
+                I
+        ----------------------------------------
+        I NUMBER =-I                            I
+        ----------------------------------------
+                I
+                I
+              -------
+              I 7000I
+              -------
+
+
+
+                I
+        ----------------------------------------
3 +      I NUMBER =N-I                           I
+        ----------------------------------------
+                I
+
+     ***RETURN
+
+        END
+
+        FUNCTION LETTER(ICODE)
+
+        INTEGER*2 ICODE,LETTER,EQUIV(40),FBCDIC(40)
+
+        INTEGER*2 IAST,ISP
+
+        DATA FBCDIC/'A','B','C','D','E','F','G','H','I','J','K','L','M',
+        'N','O','P','Q','R','S','T','U','V','W','X','Y','Z'
+        ,'0','1','2','3','4','5','6','7','8','9',
+        '/','*','(','$'/
+
+        DATA EQUIV/2304,2176,2112,2080,2064,2056,2052,2050,
+        2049,1280,1152,1088,1056,1040,1032,1028,
+        1026,1025,640,576,544,528,520,516,
+        514,513,512,256,128,64,32,16,
+        8,4,2,1,768,1058,2066,2048/
+
+        DATA IAST/'*'/,ISP/' '/
+                I
```

(CONTINUED ON PAGE 51)

```
+
+                I
+                I
+                I
+             . *   * .
+          . *    IF     * .
+       *  (ICODE.EQ.0)      *
+     I * .                . * I
+     I     * .        . *     I
+     I          * . *         I
+  - I           0 I          + I
+ -------      -------      -------
+ I LETTER=ISPI     I      I      I
+ -------      -------      -------
+
+                I
+                I
+             . *   * .
+          . *    IF     * .
+       *  (ICODE.EQ.0)      *
+     I * .                . * I
+     I     * .        . *     I
+     I          * . *         I
+  - I           0 I          + I
+ -------      -------      -------
+ I GOTO190    I      I      I      I
+ -------      -------      -------
+
+                I
+           +------------+
+          + DO            +
++++++++++      I           +
+          + N=1,40        +
+           +------------+
+                I
+                I
+                I
+             . *   * .
+          . *    IF     * .
+       *(ICODE.EQ.EQUIV(N))*
+     I * .                . * I
+     I     * .        . *     I
+     I          * . *
+  - I           0 I          + I
+ -------      -------      -------
+ I GOTO100    I      I      I      I
+ -------      -------      -------
+
+
1 ++++++++CONTINUE
+                I
+        ----------------------------------------
+        I LETTER =IAST                          I
+        ----------------------------------------
+                I
+                I
```

(CONTINUED ON PAGE 52)

```
      +
      +                I
      +                I
      +             -------
      +             I 999 I
      +             -------
      +
      +
      +
      +                I
      +        ----------------------------------------
  100 +        I LETTER =EBCDIC(N)                    I
      +        ----------------------------------------
      +                I
      +
  999 +     ***RETURN
      +
      +        END
I.F2I2I
```

```
P ACKBACK FOLLOWS-   ROUTINE    ISW   REG. 14   REG. 15   REG.  0    1
                     IPCOM            92033020   00005058   00000001
                     MAINPG
E PY POINT=  0000IFE8
```

SECTION V

OUTPUT REPORT GENERATOR

MONITOR

```
[illegible]

[illegible]

[illegible]
```

```
      CALL [illegible]
      CALL [illegible]
                I
            -------
            I 10  I
            -------

   71 CONTINUE
      CALL RSEP(IRP(KIRP))
                I
            -------
            I 100 I
            -------

   72 CONTINUE
      CALL RSEP(IRP(KIRP))
                I
            -------
            I 100 I
            -------

   73 CONTINUE
      CALL OPSYS('LOAD','REPT0064')
      CALL RSEP(IRP(KIRP))
      CALL REP04
                I
            -------
            I 100 I
            -------

   74 CONTINUE
      CALL OPSYS('LOAD','REPT0064')
      CALL RSEP(IRP(KIRP))
      CALL REP05
                I
```

```
+
+                 I
+                 I
+              -------
+              I 100 I
+              -------
+
+
+
+
+        CONTINUE
+
+        CALL DPSRS(TL,[illegible],TEPL,[illegible],XT)
+
+        CALL RSEP(IRP(KIRP))
+
+        CALL KZPPA
+                 I
+              -------
+              I 100 I
+              -------
+
+
+
+
+
+
+        CONTINUE
+
+        CALL DPSYS(TL,[illegible],TEPL,[illegible],[illegible])
+
+        CALL RSEP(IRP(KIRP))
+
+        CALL KZPPA7
+                 I
+              -------
+              I 100 I
+              -------
+
+
+
+
+
+
+        CONTINUE
+
+        CALL RSEP(IRP(KIRP))
+                 I
+              -------
+              I 100 I
+              -------
+
+
+
+
+
+
+        CONTINUE
+
+        CALL RSEP(IRP(KIRP))
+                 I
  (CONTINUED ON PAGE [illegible])
```

```
+                 I
+                 I
+               -----
+               I   I
+               -----
+
+
+
```

```
+
+
+
```

SECTION VI

OUTPUT REPORT GENERATOR SUBPROGRAMS

```
*** PROGRAM LOGIC MANUAL  *** A.I.M.S. VERSION III  ***

                    I

          *** PROGRAM LOGIC MANUAL  *** A.I.M.S. VERSION III  ***

            SUBROUTINE RECORD(IPRT,IPCF)

            INTEGER INFORM(12),DATE(4),TIME(4)

            INTEGER*2 ORP(7),IRP
            I TSCTR 3(10)/'****',' AIM','S OUT','TPUT',' CHA','RACT','ER, ',
            'CHP ','ST P','T.  '/

            EQUIVALENCE (INFORM(5),DATE(1)),(INFORM(9),TIME(1))

            CALL INFO(INFORM)

        ***WRITE (3,10000) IPRT,TIME,DATE,IPCF

            FORMAT(1H1,/1H ,'     **** A.I.M.S. REPORT GENERAL ( ***'  I
             ,'PR ',I2,' ****     TIME  - ',4A2,'     DATE  - ',4A2,'     PAG.
             ,'ER ',I4,//)
                    I
            ----------------------------------------
            I IPCF =IPCF+1                          I
            ----------------------------------------
                    I

        ***RETURN

            ENTRY RSTP(IRP)
                    I
            ----------------------------------------
            I IOTPT=3                               I
            ----------------------------------------
                    I
                    I
              +------------+
             + DO          +
   ++++++++++    10         +
   +         + K=1,7       +
   +          +------------+
   +                I
   +                I
   +        ----------------------------------------
10 ++++++++I ORP(K) =IRP                            I
            ----------------------------------------
                    I

        ***WRITE(IOTPT,20)
                    I
              +------------+
             + DO          +
   ++++++++++    15         +
   +         + K=1,60      +
   +          +------------+
   +                I
   +         IF (IOTPT,25) (ORP(J),J=1,7),(P(L),L=1,10),IRP,P(1),(ORP(J),J=1,7),
   +        (ORP(J),J=1,7),(P(L),L=1,10),IRP,P(1),(ORP(J),J=1,7)
```

(CONTINUED ON PAGE 2)

```
*** PATCH * LOAD MANUAL  ***  [illegible]
+
+                I
+
+++++++++CONTINUE

      FORMAT(1H1)

      FORMAT(I5,2(7I2,10A4,I2,A4),7I2)

   ***RETURN

      END

      FUNCTION SUBGRD(TP,H,A)

      INTEGER*2 H,A,TP

      INTEGER*2 IPASS,SUBGRD,ITEST,N,D(11)

      INTEGER*2 THV(4)/3,5,7,9/,SCLEHM(4)/100,80,60,30/

      INTEGER*2 SCLFSG(4)/100,80,40,10/
                I
      ----------------------------------------
      I SUBGRD =0                              I
      I ITEST=IPASS(H,A,N,D)                   I
      ----------------------------------------
                I

      GO TO (10,10,30,40,10),TP

   ***WRITE(IOTPT,500)

500   FORMAT(' *** ERROR *** INCORRECT TYPE SPEC, ')

   ***RETURN

10    CONTINUE
                I
                I
            . *   * .
          . *    IF     * .
        *(ITEST.EQ.1.AND.N.EQ.1)
      I * .                 . * I
      I     * .         . *     I
      I         * . *           I
    - I         0 I           + I
   -------     -------       -------
   I SUBGID=100I     I       I     I
   -------     -------       -------


   ***RETURN

30    CONTINUE
                I
```

(CONTINUED ON PAGE 3)

```
                    I
                    I
              +-----------+
              + DO        +
+++++++++++     32        +
+             + KI=1,4    +
+             +-----------+
+                  I
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *(A.GE.THW(KI))SUBGRD=SCLFAW(KI)
+     I * .                 . * I
+     I      * .        . *     I
+     I          * . *          I
+  - I           * I          + I
+ -------       -------      -------
+ I     I       I     I      I     I
+ -------       -------      -------
+
+
?? ++++++++CONTINUE

      ***RETURN

40          CONTINUE
                    I
                    I
              . *   * .
          . *    IF     * .
       *(ITEST.EQ.1)SUBGRD=SCLFSG(A)
     I * .                 . * I
     I      * .        . *     I
     I          * . *          I
  - I           * I          + I
 -------       -------      -------
 I     I       I     I      I     I
 -------       -------      -------

      ***RETURN

          END

          SUBROUTINE GETIT(RFKORD,LESSON,SEGMNT ,TYPE,FILES,ERRORS)

          INTEGER*2 WASTE(3)

          INTEGER SYSTEM,HEADER,QUESTO,TAPE

          INTEGER*2 LESSON,SEGMNT,TYPE,ERRORS,QUESTN,  LPCHK,CARD

          INTEGER*2 RECMRD(70),RECORD(65),REKORD(65),PTRS(50),POS(50)
                    I
```

(CONTINUED ON PAGE 4)

```
* * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

                    I

          INT ***  FILES(5)

          LOGICAL  ***
                   I
          ----------------------------------------
          I SYSTEM =FILES(1)                      I
          I HEADER =FILES(2)                      I
          I QUESTS =FILES(3)                      I
          I TAPE =FILES(4)                        I
          I MIDDLE =1                             I
          ----------------------------------------
                   I
                   I
                 -------
                 I I   I
                 -------


          ENTRY GETARG(REC**80,LESSON,SEGMNT,TYPE,NUCSTS,FILES,LPARS)
                   I
          ----------------------------------------
          I SYSTEM =FILES(1)                      I
          I HEADER =FILES(2)                      I
          I QUESTS =FILES(3)                      I
          I TAPE =FILES(4)                        I
          I MIDDLE =2                             I
          ----------------------------------------
                   I

I         ***READ (SYSTEM'2) LPERM,WASTE

          ***READ (SYSTEM'3) PTRS

          ***READ (SYSTEM'4) MOS
                   I
                   I
                 . *   * .
              . *    IF     * .
            *((LESSON.GT.0).AND.(LESSON.LE.LPARS(4)))
          I * .                 . * I
          I     * .         . *     I
          I         * . *           I
        - I         0 I           + I
       -------     -------       -------
       I GOTO I    I     I       I     I
       -------     -------       -------

                   I
          ----------------------------------------
          I ERRORS =-1                            I
          ----------------------------------------
                   I
                   I
(CONTINUED ON PAGE   5)
```

```
                    I
        ***RETURN
                    I
            ----------------------------------------
2           I ISTART =PTRS(LESSON)                 I
            I IEND =ISTART+NDS(LESSON)-1           I
            ----------------------------------------
                    I
                    I
              +------------+
             + DO          +
+++++++++++      3          +
+           + INDEX=ISTART,IEND
+            +------------+
+                   I
+
+     ***READ (HEADER'INDEX) RECORD
+                   I
+                   I
+              . *   * .
+          . *     IF     * .
+       *((RECORD(3).EQ.SEGMENT).AND.(RECORD(4).EQ.TYPE))
+     I * .                    . * I
+     I      * .          . *      I
+     I          * . *            I
+  - I           G I           + I
+ -------      -------      -------
+ I GOTO I     I     I      I     I
+ -------      -------      -------
+
+
3 ++++++++CONTINUE
                    I
            ----------------------------------------
            I ERRORS =1                            I
            ----------------------------------------
                    I
        ***RETURN
                    I
            ----------------------------------------
4           I ERRORS =0                            I
            ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 6)

```
*** PROGRAMMER MANUAL *** PAGE 6 ***

                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *  (ATDOLF.EQ.1)     *
          I * .                 . * I
          I     * .         . *     I
          I         * . *           I
        - I         0 I           + I
       -------     -------       -------
       I RETURN    I     I       I     I
       -------     -------       -------

                    I
            ----------------------------------------
            I IPOINT =REKORD(9)+QUESTN-1            I
            ----------------------------------------
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *(QUESTN.GT.REKORD(13))
          I * .                 . * I
          I     * .         . *     I
          I         * . *           I
        - I         0 I           + I
       -------     -------       -------
       I COTOIOL   I     I       I     I
       -------     -------       -------

      ***READ(QUESTO'IPOINT) REKORD

      ***RETURN
                    I
            ----------------------------------------
            I ERRORS =-1                            I
            ----------------------------------------
                    I

      ***RETURN

            ENTRY FINDIT(RECORD,LESSON,SEGMNT,TYPE,CARD,FILES,ERRORS,DUM)
                    I
            ----------------------------------------
            I SYSTEM =FILES(1)                      I
            I HEADER =FILES(2)                      I
            I QUESTO =FILES(3)                      I
            I TAPE =FILES(4)                        I
            I ERRORS =0                             I
            ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 7)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
            *   (.NOT.ONE)       *
         I * .                 . * I
         I     * .         . *     I
         I         * . *           I
       - I         C I           + I
      -------     -------       -------
      I GOTO100   I     I       I     I
      -------     -------       -------

                    I
          ---------------------------------------
          I ONE = .FALSE.                       I
          ---------------------------------------
                    I

      ***REWIND TAPE

100   ***READ (TAPE,END=701) RECORD
                    I
                    I
                 . *   * .
              . *    IF     * .
            *((RECORD(1).EQ.LESSON).AND.(RECORD(3).EQ.SEGMNT).AND.(REC
         I * .                 . * I
         I     * .         . *     I
         I         * . *           I
       - I         C I           + I
      -------     -------       -------
      I     I     I     I       I     I
      -------     -------       -------

          .EQ.TYPE)) GO TO 300
                    I
                    I
                 . *   * .
              . *    IF     * .
            *((RECORD(1).GT.LESSON).AND.(CARD.EQ.2))
         I * .                 . * I
         I     * .         . *     I
         I         * . *           I
       - I         C I           + I
      -------     -------       -------
      I GOTO101   I     I       I     I
      -------     -------       -------

                    I
```

(CONTINUED ON PAGE 8)

```
                    I
                    I
                 -------
                 I 100 I
                 -------


                    I
                    I
                 . *   * .
              . *    IF     * .
           *((CARD.EQ.1).AND.(RECORD(2).EQ.0))
        1 * .                  . * 1
        1      * .         . *     1
        1          * . *           I
      - I          0 I           + I
     -------      -------       -------
     I RETURN     I     I       I     I
     -------      -------       -------

                    I
                    I
                 . *   * .
              . *    IF     * .
           *((CARD.EQ.2).AND.(RECORD(2).NE.0))
        1 * .                  . * 1
        1      * .         . *     1
        1          * . *           I
      - I          0 I           + I
     -------      -------       -------
     I RETURN     I     I       I     I
     -------      -------       -------

                    I
                    I
                 . *   * .
              . *    IF     * .
           *   (CARD.NE.1)      *
        1 * .                  . * 1
        1      * .         . *     1
        1          * . *           I
      - I          0 I           + I
     -------      -------       -------
     I GOTO100    I     I       I     I
     -------      -------       -------

          BACKSPACE TAPE

          BACKSPACE TAPE
                    I
```

(CONTINUED ON PAGE 9)

```
                    I
                    I
                 -------
                 I 100 I
                 -------

          END

          SUBROUTINE SUBMIT(TP,ST)

          IMPLICIT INTEGER*2 (K)

          LOGICAL*1 TEST(185,10)

          INTEGER*2 OID(12)/1,3,8,2,7,3,10,4,10,5,10,6/

          INTEGER*2 OUTCHK(10)

          INTEGER*2 TP(5),ST,SG

          INTEGER*2 CSN,RTP,RSG
                    I
             +------------+
          + DO            +
++++++++++   10            +
+         + K1=1,185      +
+          +------------+
+                 I
+                 I
+          +------------+
+         + DO            +
++++++++++   10            +
+         + K2=1,10       +
+          +------------+
+                 I
+                 I
+       ----------------------------------------
+       I TEST(K1,K2) =.FALSE.                 I
+       ----------------------------------------
+                 I
+
100 ++++++++CONTINUE

      ***RETURN

          ENTRY CHECK(CSN,RTP,RSG)

          TEST(CSN,OID(RTP+2*(RSG-1)))=.TRUE.

      ***RETURN

          ENTRY GETCHK(CSN,OUTCHK)
                    I
```

(CONTINUED ON PAGE 10)

```
                    I
                    I
                +------------+
               + DO          +
++++++++++    20             +
+            + K3=1,10       +
+             +------------+
+                   I
+                   I
+          ----------------------------------------
+          I OUTCHK(K3) =1                        I
+          ----------------------------------------
+                   I
+                   I
+                   I
+                . *   * .
+            . *    IF     * .
+         *(.NOT.TEST(CSN,K3))OUTCHK(K3)
+      I * .                  . * I
+      I      * .        . *      I
+      I           * . *          I
+   - I           C I           + I
+ -------       -------       -------
+ I  =?  I      I     I       I     I
+ -------       -------       -------
+
+
20 ++++++++CONTINUE
                    I
          ----------------------------------------
          I OUTCHK(10) =1                        I
          ----------------------------------------
                    I

      ***RETURN

          END

          SUBROUTINE REPL

          DIMENSION ALINE(32)

          DIMENSION WON(3),TWO(3),THR(3),FOU(3),FIV(3)

          INTEGER FILES(5)

          INTEGER*2 LESSON,SEGMNT,TYPE,ERRORS,QUESTN

          INTEGER * 2 RP,LN,ST,SC,CSN,T1,T2,T3,T4,T5

          INTEGER*2 RIGHT,ITEST,QNO,COUNT

          INTEGER * 2 HDR(48.,ANS(48),RECH(65),RECR(65),RECM(65)

          INTEGER * 2 KEY(17),PRC(13)
                    I
```

(CONTINUED ON PAGE 11)

```
                    I

          INTEGER * 2 TP(5),CARD,KTP,XST

          INTEGER * 2 CRNM(6)

          INTEGER * 2 GRD

          INTEGER * 2 NAMENO(23)

          INTEGER * 2 SECTN(2),GROUP(2),BACK(65)

          DATA NOW/'PRE ','TEST','    '/,THU/'POST',' TES','T   '/,
          THP/'HOME','WORK','    '/,FOU/'STUD','Y GU','IDE '/,
          FIV/'ASSI','GNME','NT  '/

          DATA ALINE/32*'----'/

          LOGICAL ONE

          EQUIVALENCE ( HOR(1), RECP(18)) , ( MIN , RECM(13))

          EQUIVALENCE ( KEY(1), RECM(41)) , ( PCT(1), RECM(58))

          EQUIVALENCE ( AMS(1), RECR(18)) , ( CSM , RECR(2)) , ( [illegible] , [illegible](
          10))

          EQUIVALENCE (NAMENO(1) , BACK(1)) , (SECTN(1) , BACK(42)),
          (GROUP(1) , BACK(44))

        ***READ(1,90) RP,LN,ST,SC,(TP(K),K=1,5),(CRNM(J),J=1,6)

   90     FORMAT(I2,7X,3I2,5I1,9X,5A2)
                    I
          ----------------------------------------
          I LESSON =LN                            I
          I FILES(1) =12                          I
          I FILES(2) =6                           I
          I FILES(3) =8                           I
          I FILES(4) =4                           I
          I FILES(5) =0                           I
          I GRAD =0.00                            I
          I CARD =2                               I
          I COUNT=0                               I
          I IKPT =1                               I
          I IPGE =1                               I
          I IOUT =3                               I
          I ONE  =.TRUE.                          I
          ----------------------------------------
                    I
                    I
            +-----------+
            + DO        +
++++++++++  +    18     +
+           + KTP=1,5   +
+           +-----------+
+                 I
+                 I
```

(CONTINUED ON PAGE 12)

```
+
+                  I
+                  I
+                  I
+              . *   * .
+          . *     IF      * .
+       *(TP(KTP).LE.0.OR.TP(KTP).GT.5)
+     I * .                    . * I
+     I      * .          . *      I
+     I           * . *            I
+  - I            0 I            + I
+ -------       -------       -------
+ I GOTO13      I     I       I     I
+ -------       -------       -------
+
+                  I
+        ----------------------------------------
+        I TYPE =TP(KTP)                         I
+        I SEGMNT =1                             I
+        ----------------------------------------
+                  I
+                  I
+                  I
+              . *   * .
+          . *     IF      * .
+       * (TP(KTP).NE.4)     *
+     I * .                    . * I
+     I      * .          . *      I
+     I           * . *            I
+  - I            0 I            + I
+ -------       -------       -------
+ I GOTO17      I     I       I     I
+ -------       -------       -------
+
+                  I
+            +------------+
+          + DO            +
++++++++++     16           +
+          + KST=1,ST      +
+            +------------+
+                  I
+                  I
+        ----------------------------------------
+        I SEGMNT =KST                           I
+        ----------------------------------------
+                  I
+
17 +        CONTINUE
+
+        CALL RSEP(RP)
+
+        CALL GETIT (REFCH,LESSON,SEGMNT,TYPE,FILES,ERRORS)
+                  I
```

(CONTINUED ON PAGE 13)

```
+
+                    I
+                    I
+                    I
+                 . *   * .
+            . *    IF     * .
+         *  (ERRORS.EQ.1)     *
+      I * .                 . * I
+      I     * .         . *     I
+      I         * . *           I
+   - I          ( I            + I
+ -------       -------        -------
+ I GOTO12      I     I        I     I
+ -------       -------        -------
+
+                    I
+                    I
+                 . *   * .
+            . *    IF     * .
+         * (ERRORS.-Q.-1)     *
+      I * .                 . * I
+      I     * .         . *     I
+      I         * . *           I
+   - I          0 I            + I
+ -------       -------        -------
+ I GOTO12      I     I        I     I
+ -------       -------        -------
+
+
+        CALL FINDIT (RECR,LESSON,SEGMNT,TYPE,CARD,FILES, RECORS, )
+                    I
+                    I
+                 . *   * .
+            . *    IF     * .
+         * (ERRORS.EQ.-1)     *
+      I * .                 . * I
+      I     * .         . *     I
+      I         * . *           I
+   - I          0 I            + I
+ -------       -------        -------
+ I GOTO10      I     I        I     I
+ -------       -------        -------
+
+
+        CALL HEADPG(IRPT,IPGC)
+                    I
+        ----------------------------------------
+        I INN   =CSN                           I
+        ----------------------------------------
+                    I
+
+     ***READ (9'INN) (BACK(J),J=1,65)
+
+     ***WRITE(2,100) (CRNM(J),J=1,6)
+                    I
```

(CONTINUED ON PAGE 14)

```
***  [illegible]
+
+                I
+
100 +      FORMAT(40X,'STUDENT PERFORMANCE & ANALYSIS FOR [illegible] ', [illegible])
+
+      GO TO (26,27,28,29,30),TYPE
+
 26 +   ***WRITE(IOUT,102) LN,(WRK(J),J=1,3),SEGMNT
+                I
+             -------
+             I 31  I
+             -------
+
+
+
+
 27 +   ***WRITE(IOUT,102) LN,(THR(J),J=1,3),SEGMNT
+                I
+             -------
+             I 31  I
+             -------
+
+
+
+
 28 +   ***WRITE(IOUT,102) LN,(THR(J),J=1,3),SEGMNT
+                I
+             -------
+             I 31  I
+             -------
+
+
+
+
 29 +   ***WRITE(IOUT,102) LN,(FOU(J),J=1,3),SEGMNT
+                I
+             -------
+             I 31  I
+             -------
+
+
+
+
 30 +   ***WRITE(IOUT,102) LN,(FIV(J),J=1,3),SEGMNT
+
102 +      FORMAT(1H0,39X,'VOLUME ',I2,12X,3A4,13X,'SEGMENT ',I2)
+
 31 +      CONTINUE
+
+   ***WRITE(IOUT,117) (ALINE(J),J=1,32)
+
117 +      FORMAT(1X,32A4)
+
+   ***WRITE(IOUT,115)
+
115 +      FORMAT(1H0,1X,'CSN',16X,'NAME',16X,'ID NUMBER',22X,'SECTION',2X,
+          'GROUP')
+                I
```

(CONTINUED ON PAGE 15)

```
+                    I
+
+     ***WRITE(IOUT,116) (S',(PARAMD(J),J=1,23),(PRCTN(I),I=1,2),
+        (CRSUP(K),K=1,2)
+
+ 116    FORMAT(1X,I4,23A2,22X,2A2,26X,2A2)
+
+     ***WRITE(IOUT,117) (ALTER(J),J=1,32)
+
+     ***WRITE(IOUT,103)
+
+ 103    FORMAT(1X,'QUESTION',7X,'ANSWER C/W',11X,'PARAMETER REFERENCE ',
+        10X,'MESSAGE')
+                    I
+              +------------+
+             + DO          +
++++++++++++     6           +
+             + K = 1,CNT   +
+              +------------+
+                    I
+                    I
+          ----------------------------------------
+          I QUESTN =K                            I
+          I ITEST=RIGHT(ANS(K),MDR(K))           I
+          ----------------------------------------
+                    I
+                    I
+                    I
+                 . *   * .
+              . *    IF     * .
+           *  (ITEST.EQ.0)      *
+        I * .                  . * I
+        I     * .          . *     I
+        I          * . *          I
+     - I           0 I           + I
+  -------       -------       -------
+  I GOTOI       I     I       I     I
+  -------       -------       -------
+
+                    I
+          ----------------------------------------
+          I COUNT=COUNT+I                        I
+          ----------------------------------------
+                    I
+
+     ***WRITE(IOUT,107) K
+
+ 107    FORMAT(3X,I2,16X,'C')
+                    I
+                 -------
+                 I 6   I
+                 -------
+
+
+
+                    I
```

(CONTINUED ON PAGE 16)

```
+
+                I
+
+       CALL GETARG(ARG,LARG,ARGUMENT,TYPE,[illegible])
+
+    ***WRITE(IOUT,L 3) X,(FRY(J),J=1,17),(PR(L),L=1,2)
+
+       FORMAT(3X,I2,10X,'W',3X,I7A2,6X,I3A2)
+
+++++++++CONTINUE
+                I
+       ----------------------------------------
+       I GRAD =((COUNT*100)/60)                I
+       ----------------------------------------
+                I
+                I
+                I
+            . *   * .
+         . *    IF     * .
+       *   (GRE.LE.0)       *
+    I * .                  . * I
+    I      * .         . *     I
+    I          * . *           I
+  - I          . I           + I
+ -------      -------       -------
+ I GOTO I     I     I       I     I
+ -------      -------       -------
+
+
+    ***WRITE(IOUT,105) GRD
+
+       FORMAT(1X,'YOUR GRADE IS  ',I3)
+
+    ***WRITE(IOUT,104) GRAD
+
+       FORMAT(180,1X,'YOUR RAW SCORE IS  ',F5.0)
+                I
+              -------
+              I 22  I
+              -------
+
+
+
+
+
+    ***WRITE(IOUT,106) GRAD
+
+       FORMAT(180,1X,'YOUR GRADE IS  ',F5.0)
+
+       CONTINUE
+                I
```

(CONTINUED ON PAGE 17)

```
      +
      +                I
      +                I
      +                I
      +            . *   * .
      +         . *    IF     * .
      +      *((COUNT+2).LT.2MD)WRITE(IOUT, 7)
      +    I * .                  . * I
      +    I      * .        . *     I
      +    I          * . *          I
      +  - I          C I          + I
      + -------      -------      -------
      + I     I      I     I      I     I
      + -------      -------      -------
      +
      +
  299 +       FORMAT(1H0,1X,'YOU MUST USE YOUR INSTRUCTOR TO [illegible]
      +       HIS TEST.')
      +                I
      +       ----------------------------------------
      +       I GPAO =0.00                            I
      +       I COUNT=0                               I
      +       ----------------------------------------
      +                I
      +                I
      +             -------
      +             I 8   I
      +             -------
      +
      +
      +
      +
   12 +    ***WRITE(3,113) ERRORS
      +
  113 +       FORMAT(1X,'GETIT ERROR LEVEL = ',I2)
      +                I
      +             -------
      +             I 11  I
      +             -------
      +
      +
      +
      +
   10 +    ***WRITE(3,112) ERRORS
      +
  112 +       FORMAT(1H1,'FINDIT ERROR LEVEL = ',I2)
      +
   99         FORMAT(1H1)
      +
   11 +       CONTINUE
      +
      +    ***REWIND 4
      +                I
```

(CONTINUED ON PAGE 18)

```
+
+                    I
+                    I
+                    I
+              . *   * .
+          . *     IF      * .
+        * (IF(KIP).EQ.A)      *
+     I * .                  . * I
+     I     * .          . *     I
+     I         * . *           I
+   - I         - I           + I
+ -------      -------      -------
+ I GOT.IF     I     I      I     I
+ -------      -------      -------
+
+
16 ++++++++CONTINUE
+
18 ++++++++CONTINUE

      ***PTYPE

         90

         SUBROUTINE REPO7

         COMMON /FILES/IFILES(15)

         DIMENSION ITOS(200),IDATA(5),LEVELS(200)

         INTEGER * 2 RP,LN,CRN(6)

      ***DATA(I,90) RP,LN,(CRN(J),J=1,6)

90       FORMAT(I2,7X,I2,13X,6A2)
                    I
              +------------+
              + 99         +
+++++++++     10           +
+             + I=1,15     +
+              +------------+
+                   I
+                   I
+        ----------------------------------------
+        I IFILES(I) =I                          I
+        ----------------------------------------
+                   I
+
19 ++++++++CONTINUE
                    I
         ------------- ---------------------------
         I IFILES=LN                             I
         ----------------------------------------
                    I

         CALL OPCODE(IFILES,ITOS,IDATA,LEVELS)
                    I
         ----------------------------------------
         I IPT  =IFILES(3)                       I
         ----------------------------------------
                    I
                    I
```

```
*** PROGRAM LOGIC MANUAL  *** A.I.M.S. VERSION III  ***

                    (

          CALL DIVIDE(DATA,ITOS,INLES,LEVELS)

        ***RETURN

          END

          SUBROUTINE DECIDE( INLES,ITOS,DATA,LEVELS )

          INTEGER HEADER,SYSTEM

          INTEGER LEVELS(200),ITOS(200),DATA(5)

          INTEGER TO,PAGE

          INTEGER*2 TOTAL(48,10),HOURS(60,10),OCTALF(10,2)

          INTEGER*2 TOCATS(200),BCKG(65)

          INTEGER*2 NOS(40),PTRS(40),STUPFC(201),FFCS(65),[illegible]

          INTEGER*2 INFORM(12),DATE(4),TIME(4)

          INTEGER*2 ROSTER,LPERM,UPERM,LTEMP,UTEMP,PRFLG,[illegible]

          INTEGER*2 ISTU1(65),ISTU2(65),ISTU3(65),ISTU4(65)

          EQUIVALENCE (INFORM(5),DATE(1)),(INFORM(9),TIME(1))

          EQUIVALENCE (ISTU1(1),STUPFC(1)),(ISTU2(1),STUPFC(66))

          EQUIVALENCE (ISTU3(1),STUPFC(131)),(ISTU4(1),STUPFC(196))

          COMMON /FILES/ ICD,IPC,IPT,IPI,ISCH,HEADER,IOCT,ICUES,IFRCD,ISCDRC
          ,IFRXF,SYSTEM
```

```
          ----------------------------------------
          I IXPCNG =0                              I
          I TO    =6                               I
          I ITAPE=IA1                              I
          I IHEAD=HEADER                           I
          I ISYS =SYSTEM                           I
          I DATA(3) =0000                          I
          I IRPT =L3                               I
          I PAGE =1                                I
          ----------------------------------------

                    I
                    I
                 +-----------+
                 + DO        +
+++++++++        I           +
+                + M=1,200   +
+                +-----------+
+                    I
+                    I
+         ----------------------------------------
+         I I [illegible]                          I
+         ----------------------------------------
```

(CONTINUED ON PAGE 20)

```
***  2.0.  V LOGIC MANUAL  ***A: S.I.A.S. ***)!   III   ****
+
+                I
+        IDS(N)=0000
+                I
+        ----------------------------------------
+        I LEVELS(N) =0000                       I
+        ----------------------------------------
+                I
+
I ********CONTINUE

         CALL HEADPC(IRPT,PAGE)

      ***WRITE (IPT,14)

14       FORMAT(1H ,40(,'TERMINAL OBJECTIVE THRESHOLD LEVEL SUMMARY',/30(,
         '----------------------------------------',/1H ,30X,'TERMINAL
         OBJECTIVE',23X,'THRESHOLD LEVEL',/30X,'-------------------',23X,'----
         -----------',/1H0)

15    ***READ (ICD,16,END=100) INDEX,ILEV

16       FORMAT (2I3)
                 I
                 I
              . *   * .
           . *    IF     * .
         *(LEVELS(INDEX).GT.0)
       I * .                 . * I
       I     * .         . *     I
       I          * . *          I
    - I           0 I          + I
    -------      -------      -------
    I GITOIDO2   I     I      I     I
    -------      -------      -------

                 I
         ----------------------------------------
         I LEVELS(INDEX) =ILEV                   I
         ----------------------------------------
                 I
                 I
                -------
                I 15  I
                -------

100      ***WRITE(IPT,7003) INDEX,ILEV,LEVELS(INDEX)

7003     FORMAT (1H1,'**** ERROR ****    DUPLICATE THRESHOLD SPECIFIED FOR N-
           I.D. = ',I3,' ATTEMPTED VALUE = ',I3,' ORIGINAL VALUE = ',I3,///
         ///////)

         CALL EXIT
                 I
         ----------------------------------------
L00      I N    =0                               I
         ----------------------------------------
                 I
```

(CONTINUED ON PAGE 21)

```
                    I
                    I
                +-----------+
               * 102        +
++++++++++   102            +
+          * IA=1,200       +
+            +-----------+
+                 I
+                 I
+                 I
+             . *   * .
+          . *    IF     * .
+       *(LEVELS(IA).EQ.JOOC)
+     I * .                 . * I
+     I      * .        . *     I
+     I          * . *          I
+  - I           O I          + I
+ -------      -------      -------
+ I GOTO102    I     I      I     I
+ -------      -------      -------
+
+                 I
+        ----------------------------------------
+        I N     .N+1                            I
+        ----------------------------------------
+                 I
+
+     ***WRITE (IPT,101) IA,LEVELS(IA)
+
101  +        FORMAT(1H ,37X,I3,35X,I3)
+                 I
+                 I
+             . *   * .
+          . *    IF     * .
+       *     (N.LE.49)       *
+     I * .                 . * I
+     I      * .        . *     I
+     I          * . *          I
+  - I           O I          + I
+ -------      -------      -------
+ I GOTO102    I     I      I     I
+ -------      -------      -------
+
+
+        CALL HEADPG(IRPT,PAGE)
+                 I
+        ----------------------------------------
+        I N     =0                              I
+        ----------------------------------------
+                 I
+
+     ***WRITE(IPT,14)
+
102  ++++++++CONTINUE
                 I
```

(CONTINUED ON PAGE 22)

```
***  P R O G R A M  L I S T I N G  M A S T E R  ...

                    I

        ***READ (ISYS'1) MSTR

            DATA ISTU1/65*0/
                    I
            ----------------------------------------
            I IFINIS =MASTER*2                      I
            ----------------------------------------
                    I
                    I
                +------------+
               + DO           +
+++++++++++      3             +
+             + ICLR1=1,IFINIS
+              +------------+
+                   I
+
+     ***WRITE(ISCH'ICLS1)ISTU1
+
3 ++++++++CONTINUE

      ***READ (ISYS'2) LPERM,NPERM,LTEMP,NTEMP,LAPFL

      ***READ (ISYS'3) PTRS

      ***READ (ISYS'4) NOS
                    I
          ----------------------------------------
          I ISTART =PTRS(INLES)                    I
          I IEND =ISTART+NOS(INLES)-1              I
          I IDIFF=ISTART-1                         I
          ----------------------------------------
                    I
                    I
                    I
                . *   * .
            . *     IF     * .
          *((INLES.GT.LPERM).OR.(INLES.LE.0))
        I * .                  . * I
        I     * .          . *     I
        I         * . *            I
      - I         0 I            + I
      -------     -------        -------
      I CALLIXIT  I     I        I     I
      -------     -------        -------

                    I
                +------------+
61             + DO           +
++++++++++      2             +
+             + INP=ISTART,IEND
+              +------------+
+                   I
+                   I
+         ----------------------------------------
+         I INDEX=INP-IDIFF                       I
+         ----------------------------------------
+                   I
+                   I
```

(CONTINUED ON PAGE 23)

```
**** PROGRAM LOGIC MANUAL  **** A.I.R.S. VERSION III  ****
 +
 +                I
 +
 +    ***READ (IHEAD'INP) (HDRS(K,INDEX),K=1,6A)
 +
 +       DCTBLE(INDEX,1)=HDRS(4,INDEX)
 +
 +       DCTBLE(INDEX,2)=HDRS(3,INDEX)
 +                I
 +       ----------------------------------------
 +       I NOUES=HDRS(13,INDEX)                 I
 +       I IPOINT =HDRS(8,INDEX)                I
 +       I IANP =IPOINT+NOUES-1                 I
 +       ----------------------------------------
 +                I
 +                I
 +          +------------+
 +          + DO          +
 ++++++++++     2          +
 +          + J=IPOINT,IANP+
 +           +------------+
 +                I
 +
 +    ***READ (IQUES'J) RECQ
 +                I
 +       ----------------------------------------
 +       I INDX1=J-IPOINT+1                     I
 +       ----------------------------------------
 +                I
 +
 +       TOTBLE(INDX1,INDEX)=RECQ(TO)
 +                I
 +       ----------------------------------------
 +       I ITO  =RECQ(TO)                       I
 +       I TOCNTS(ITO) =TOCNTS(ITO)+1           I
 +       ----------------------------------------
 +                I
 +
2 ++++++++CONTINUE

      ***REWIND ITAPE

11    ***READ (ITAPE,END=7000) RECS
                I
                I
             . *   * .
          . *    IF     * .
        *(RECS(1).NE.INLES)  *
      I * .                . * I
      I     * .        . *     I
      I         * . *          I
    - I         0 I          + I
   -------     -------      -------
   I GOTO12    I     I      I     I
   -------     -------      -------

                I
   (GO TO NEXT PAGE  24)
```

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           * (PSCS(2).EQ.0)     *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
      -------      -------      -------
      I GOTO11     I     I      I     I
      -------      -------      -------

                    I
                 -------
                 I 13  I
                 -------
```

```
                    I
                    I
12               . *   * .
              . *    IF     * .
           *(PSCS(1).GT.INLES) *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
      - I          0 I          + I
      -------      -------      -------
      I GOTO1000   I     I      I     I
      -------      -------      -------

                    I
                 -------
                 I 11  I
                 -------
```

```
900       ***WRITE (IPT,7001) INLES
7001          FORMAT (1H1,'NO RECORD OF LESSON ',I3,//////)
              CALL EXIT
13            CONTINUE
                    I
```

(CONTINUED ON PAGE 25)

```
                        I
                        I
                  +------------+
105               + DO         +
          ++++++++++   106      +
          +         + IN=1,20  +
          +         +------------+
          +                I
          +                I
          +        ----------------------------------------
  10      ++++++++I STUREC(IN) =0000                      I
          +        ----------------------------------------
          +                I
          +        ----------------------------------------
  104             I ITYPE=RECS(4)                         I
                  I ISEG =RECS(3)                         I
                  ----------------------------------------
                           I
                           I
                  +------------+
                  + DO         +
          ++++++++++   107      +
          +         + IN=1,10  +
          +         +------------+
          +                I
          +                I
          +                I
          +            . *   * .
          +        . *     IF     * .
          +      *(DCTBLE(IN,1).NE.ITYPE)
          +    I * .                  . * I
          +    I     * .          . *     I
          +    I         * . *            I
          +  - I         0 I            + I
          + -------      -------      -------
          + I GOTO107    I     I      I     I
          + -------      -------      -------
          +
          +                I
          +                I
          +            . *   * .
          +        . *     IF     * .
          +      *(DCTBLE(IN,2).EQ.ISEG)
          +    I * .                  . * I
          +    I     * .          . *     I
          +    I         * . *            I
          +  - I         0 I            + I
          + -------      -------      -------
          + I GOTO108    I     I      I     I
          + -------      -------      -------
          +
          +
  107     ++++++++CONTINUE

            ***WRITE (IPT,7004) ITYPE,DCTBLE
                           I
```

(CONTINUED ON PAGE 2)

```
***** P )  AY L S I C  M A L  ***  S I L S . . . .  M E  S I   I F I   S S S *

                    I

7004          FORMAT(1H1,'ILLEGAL TYPE NUMBER- ',I2,/1X,'MAX TYPES ARE -',
              1OI4,/////)

              CALL EXIT
                    I
              ----------------------------------------
              I IDECK=IN                              I
              I NOWUFS =HDRS(13,IDECK)                I
              ----------------------------------------
                    I
                    I
                 +------------+
                + 90           +
++++++++++   110            +
+          + IS=1,NLSUFS  +
+           +------------+
+                 I
+                 I
+                 I
+             . *   * .
+          . *    IF     * .
+       *(HDRS(IN+17,IDECK).EQ.1)
+    I * .                 . * I .
+    I      * .          . *     I
+    I          * . *           I
+  - I          0 I           + I
+ -------      -------      -------
+ I GOTO110    I     I      I     I
+ -------      -------      -------
+
+                 I
+        ----------------------------------------
+        I IXV  =IN+17                           I
+        ----------------------------------------
+                 I
+                 I
+                 I
+             . *   * .
+          . *    IF     * .
+       *(RIGHT(RECS(IXV),HDRS(IXV,IDECK)).NE.IWRONG)
+    I * .                 . * I
+    I      * .          . *     I
+    I          * . *           I
+  - I          0 I           + I
+ -------      -------      -------
+ I GOTO110    I     I      I     I
+ -------      -------      -------
+
+                 I
+        ----------------------------------------
+        I ITONO=TOTBLE(IN,IDECK)                I
+        I STUREC(ITONO) =STUREC(ITONO)+1        I
+        ----------------------------------------
+                 I
+                 I
```

(CONTINUE) ON PAGE 27)

```
+
+                    I
+
111 ++++++++CONTINUE
                     I
          ----------------------------------------
          I ISAVE=RECS(2)                        I
          ----------------------------------------
                     I
      ***READ(ITAPE,END=3000) RECS
                     I
                     I
                 . *   * .
             . *    IF     * .
         *(RECS(2).EQ.ISAVE)  *
       I * .                 . * I
       I      * .        . *      I
       I          * . *           I
     - I          0 I           + I
     -------      -------       -------
     I GOTO104    I     I       I     I
     -------      -------       -------

                     I
                +------------+
               + DO            +
++++++++++   111                +
+            + IN=1,200        +
+            +------------+
+                    I
+                    I
+          ----------------------------------------
+          I ITOP =STUREC(IN)                     I
+          I IBOT =TOCNTS(IN)                     I
+          ----------------------------------------
+                    I
+                    I
+                    I
+                 . *   * .
+             . *    IF     * .
+         *   (IBOT.EQ.0)      *
+       I * .                 . * I
+       I      * .        . *      I
+       I          * . *           I
+     - I          0 I           + I
+ -------      -------       -------
+ I GOTO111    I     I       I     I
+ -------      -------       -------
+
+                    I
+          ----------------------------------------
+          I STUREC(IN) =(100*ITOP)/IBOT          I
+          ----------------------------------------
+                    I
+                    I
```

(CONTINUED ON PAGE 28)

```
***  P . ' L  I  MANUAL  *' ' .I. ... VI  .I'' III
     +
     +                I
     +                I
     +                I
     +            . *   * .
     +         . *    IF     * .
     +      *(STURFC(IN).LE.LEVELS(IT))
     +    I * .                . * I
     +    I      * .        . *     I
     +    I          A . *          I
     +  - I          0 I          + I
     +  -------      -------      -------
     +  I GOTO111    I     I      I     I
     +  -------      -------      -------
     +
     +                I
     +        ----------------------------------------
     +        I STURFC(201) =1                        I
     +        I ITOS(IN) =ITOS(IN)+1                  I
     +        ----------------------------------------
     +                I
     +
111  ++++++++CONTINUE
                      I
                      I
                  . *   * .
              . *    IF     * .
          *(STURFC(201).GT.0)DATA(3)=DATA(3)
        I * .                . * I
        I      * .        . *     I
        I          * . *          I
      - I          0 I          + I
     -------      -------      -------
     I +1  I      I     I      I     I
     -------      -------      -------

                      I
                      I
                  . *   * .
              . *    IF     * .
          *(STURFC(201).EQ.0) *
        I * .                . * I
        I      * .        . *     I
        I          * . *          I
      - I          0 I          + I
     -------      -------      -------
     I GOTO120    I     I      I     I
     -------      -------      -------

          CALL HEADPG(IRPT,PAGE)

       ***READ(IBKGD'ISAVE)BCKG

       ***WRITE (IPT,112) (BCKG(IRT),IRT=6,18),(BCKG(IRT),IRT=19,23),IMLS
                      I
     (CONTINUED ON PAGE  29)
```

```
***** P [illegible] LOGIC SIGNAL  **** A.I.[illegible] V[illegible] ****

                    I

112         FORMAT  (1H0,12X,' I.D. [illegible] ',5A2,/1H ,'[illegible] STUDENT [illegible]
            D ABOVE HAS PERFORMED BELOW PRE-SET LEVELS OF PERFORMANCE [illegible]
            NAL OBJECTIVE(S) IN LESSON ',I2,/1H0,'----------------------------
            -----------  PERFORMANCE DATA ----------------------------------
            ---',/1H0,5X,'I.D.',20X,'PERCENT [illegible]',20X,'CUT-OFF LEVEL',/1H0)
                    I
              +------------+
             + 90          +
++++++++++   113            +
+           + IRT=1,200     +
+            +------------+
+                  I
+                  I
+                  I
+              . *   * .
+          . *     IF      * .
+        *(STUREC(IRT).LE.90.0)
+     I * .                  . * I
+     I      * .        . *      I
+     I           * . *          I
+  - I           C I           + I
+ -------      -------      -------
+ I GOTO113    I     I      I     I
+ -------      -------      -------
+
+
+     ***WRITE (IPT,114)IRT,STUREC(IRT),LEVELS(IRT)
+
114 +        FORMAT (1H ,5X,I3,25X,I3,30X,I3)
+
113 ++++++++CONTINUE
                    I
            ------ ------------------------------------
120         I IPOINT =(ISAVE*4)-3                     I
            I INEXT=IPOINT+1                          I
            I INFX =INEXT+1                           I
            I INX  =INFX+1                            I
            ------------------------------------------
                    I

        ***WRITE (ISCH'IPOINT) ISTU1

        ***WRITE (ISCH'INEXT) ISTU2

        ***WRITE(ISCH'INFX)ISTU3

        ***WRITE(ISCH'INX)ISTU4
                    I
```

(CONTINUED ON PAGE 30)

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
          *(ZCS(L). LT.1E-5)    *
       I * .                  . * I
       I      * .          . *     I
       I           . *            I
    - I          0 I            + I
   -------      -------        -------
   I GOTO130 I     I        I      I
   -------      -------        -------

                    I
                 -------
                 I 105 I
                 -------


                    I
            ----------------------------------------
            I DATA(2) =BOSTER                       I
            I DATA(1) =0                            I
            ----------------------------------------
                    I
                    I
              +------------+
            + DO            +
+++++++++   8001            +
+           + IRT=1,200     +
+             +------------+
+                   I
+                   I
+                   I
+              . *   * .
+           . *    IF     * .
+        *(ITOS(IRT).EQ.0)    *
+     I * .                  . * I
+     I      * .          . *     I
+     I           * . *          I
+  - I          0 I            + I
+ -------      -------        -------
+ I GOTO100 I     I        I      I
+ -------      -------        -------
+
+                   I
+        ----------------------------------------
+        I DATA(1) =DATA(1)+1                    I
+        ----------------------------------------
+                   I
+
8001 ++++++++CONTINUE
                   I
```

(CONTINUED ON PAGE 31)

```
                    I
                    I
              +-------------+
            + DO            +
++++++++++  8100            +
+         + INDEL,IRT       +
+           +-------------+
+                 I
+                 I
+                 I
+             . *   * .
+          . *    IF     * .
+       *(ITOS,TS(IND).LE.JOOO)
+     I * .                 . * I
+     I      * .        . *     I
+     I          * . *          I
+  - I           I           + I
+ -------      -------      -------
+ I 8000 I100  I     I      I     I
+ -------      -------      -------
+
+                 I
+                 I
+             . *   * .
+          . *    IF     * .
+       *(ITOS(IND).LE.JOOO)*
+     I * .                 . * I
+     I      * .        . *     I
+     I          * . *          I
+  - I           * I           + I
+ -------      -------      -------
+ I 8000 I100  I     I      I     I
+ -------      -------      -------
+
+
+        CALL HEADPG(IRPT,PAGE)
+
+    ***WRITE(IPT,8002) IDLES,IND,TOCNTS(IND),ITOS(IND),LEVELS(IND)
+
+        FORMAT (1H0,40X,'TERMINAL OBJECTIVE REMEDIAL SUMMARY',/1H0,20 ,'L
+        SSON ',I2,5X,'TERMINAL OBJECTIVE ',I3,4X 'COMPOSED OF ',I2,' QUEST
+        IONS.'//10X,'A TOTAL OF ',I3,' STUDENTS PERFORMED BELOW THE CUTOFF
+         LEVEL SET AT ',I3//1X,'THE FOLLOWING STUDENTS HAVE PERFORMED BELO
+        W THE CUTOFF LEVEL-'//11X,'NAME OF STUDENT',12X,'I.D. NO.',3X,'PER
+        CENT ERROR'/7X,26('-'),2X,10('-'),5X,'----------'//)
+                 I
+              +-------------+
+            + DO            +
++++++++++  8005            +
+         + IBMT=1,NOSTEP   +
+           +-------------+
+                 I
+                 I
+        ----------------------------------------
+        I IPOINT =(IBMT*4)-3                    I
+        ----------------------------------------
+                 I
```

(CONTINUED ON PAGE 32)

```
+
+                    I
+        I NEXT=IP.I  T+1
+                    I
+        ----------------------------------------
+        I I.AX =IN' YT+1                        I
+        I I.'   =I.AX+1                         I
+        ----------------------------------------
+                    I
+
+    ***RFA.A7(ISCH'IP3IN'I)ISTU1
+
+    ***SFA.7(ISCH'I.CXT)ISTU2
+
+    ***RFA.7(ISCH'I.NEX) ISTU3
+
+    ***RFA. (ISCH'IN.X)ISTU4
+                    I
+                    I
+              . *   * .
+          . *     I.      * .
+       *(STH.FC(E.P).L..LEVELS(I'E ))
+     I * .                  . * I
+     I      * .         . *      I
+     I           * . *           I
+  - I           C I           + I
+ -------      -------      -----*-----
+ I SITTIGOS   I     I      I     I
+ -------      -------      -------
+
+
+    ***RFA. (I.XGO'I.MT)PCKG
+
+    ***WRITE(IPT,5006) (PCKG(I.X),INK=6,23) , STURFC(I.)
+
+       FORMAT(1H0,6X,I3A2,2X,5A2,5A,I3)
+
+++++++++CONTINUE
+
+++++++++CONTINUE
      ***RETURN
          END
          SUBROUTINE DIVIDE (IDATA,ITOS,INLES,LEVELS)
          DIMENSION ICNT(10),IVEX(200,2),LOC(10,20),ICLASS(10,20),IDATA(5)
          DIMENSION ITOS(200),LEVELS(200),LIC(20),ITEMP(20)
          INTEGER PAGE
          INTEGER*2 INFORM(12),DATE(4),TIME(4),RECD(55)
          EQUIVALENCE (INFORM(5),DATE(1)),(INFORM(9),TIME(1))
                    I
```

(CONTINUED ON PAGE 33)

```
[illegible]

                    I

          [illegible] / [illegible]/ICD,IPL,IPT,IP2,[illegible],[illegible],[illegible],[illegible],[illegible],[illegible],
          ITEXT,ITYS,IP4,IP5,IP6.

          DATA LIC/20*'----'/
                    I
          ----------------------------------------
          I [illegible] =1                         I
          I IPT =1                                 I
          ----------------------------------------
                    I

      ***READ(ICD,1)[illegible],[illegible]

1         FORMAT([illegible])
                    I
                 +------------+
                + [illegible]          +
++++++++++      3            +
+             + I=1,10       +
+              +------------+
+                   I
+                   I
+              +-------------+
+             + [illegible]          +
++++++++++      3            +
+             + J=1,20       +
+              +------------+
+
+                   I
+          ----------------------------------------
+          I LIC(I,J) =LIC(J)                      I
+          ----------------------------------------
+                   I
+
++++++++CONTINUE
                    I
          ----------------------------------------
          I IN    =0                              I
          ----------------------------------------
                    I

      ***READ(ICD,2,END=6) ITEMP

2         FORMAT(20A4)
                    I
          ----------------------------------------
          I IN    =IN+1                           I
          ----------------------------------------
                    I
                    I
                 +------------+
                + DO           +
++++++++++      4            +
+             + J=1,20       +
+              +------------+
+                   I
+                   I
```

```
4 ++++++++I LOC(IN,J) =ITEMP(J)                    I
```

```
                    I
                    I
                 -------
                 I 9   I
                 -------

                    I
                    I
                 . *   * .
              .  *     IF     * .
           *(IX.LT.IXMI)*RITE(IPT,7)
        [ * .                   . * ]
        !     * .           . *     !
        !          . . *            !
     - !           ^ !            + !
     -------       -------        -------
     I     I       I     I        I     I
     -------       -------        -------

7       FORMAT(1H1,'******  PARCEL - NUMBER OF SPI ,'SPECIAL  ACTIONS IN
        BER OF LOCATION DESCRIPTION CARDS....')
                    I
                 +------------+
                 + DO           +
++++++++++       5              +
+                + I=1,200      +
+                +------------+
+                      I
+                      I
+           ----------------------------------------
+           I IVEX(I,1) =I                          I
+           ----------------------------------------
+                      I
+           ----------------------------------------
5 +++++++++I IVEX(I,2) =ITUS(I)                     I
            ----------------------------------------
                      I
                      I
                 +------------+
                 + DO           +
++++++++++       10             +
+                + I=1,199      +
+                +------------+
+                      I
+                      I
+           ----------------------------------------
+           I J1    =I+1                            I
+           ----------------------------------------
+                      I
```

(CONTINUED ON PAGE 35)

```
+
+                 I
+                 I
+           +------------+
+          + DO          +
++++++++++    10          +
+          + J=J1,200    +
+           +------------+
+                 I
+                 I
+                 I
+             . * . * .
+          . *    IF    * .
+       *(IVEX(I,2).GE.IVEX(J,2))
+     I  . *                  . * I
+     I      . *        . *      I
+     I          * . *           I
+   - I          0 I           + I
+ -------      -------       -------
+ I CONT(10    I     I       I     I
+ -------      -------       -------
+
+                 I
+           +------------+
+          + DO          +
++++++++++    C          +
+          + K=1,2       +
+           +------------+
+                 I
+                 I
+        ----------------------------------------
+        I ICNT(K) =IVEX(I,K)                    I
+        I IVEX(I,K) =IVEX(J,K)                  I
+        ----------------------------------------
+                 I
+        ----------------------------------------
++++++++I IVEX(J,K) =ICNT(K)                     I
+        ----------------------------------------
+                 I
+
10 ++++++++CONTINUE
                 I
                 I
             . *    * .
          . *    IF     * .
       *(IDATA(I).LT.NGMI)NGMI=IDATA(I)
     I * .                  . * I
     I      * .        . *      I
     I          * . *           I
   - I          0 I           + I
 -------      -------       -------
 I     I      I     I       I     I
 -------      -------       -------

                 I
        ----------------------------------------
        I I     =IDATA(I)/NGMI                  I
        ----------------------------------------
                 I
```

(CONTINUED ON PAGE 36)

```
                    I
          II=I*NG+I
                    I
          ----------------------------------------
          I IREM =IDATA(I)-II                    I
          ----------------------------------------
                    I
                    I
             +------------+
           + DO                +
++++++++++     20             +
+          + J=1,NOM I       +
+           +------------+
+                   I
+                   I
+       ----------------------------------------
+       I K     =NOM I-J+I                     I
+       ----------------------------------------
+                   I
+                   I
+                   .
+              . ^   * .
+          . *     IF      * .
+       *      (IREM)          *
+     I * .                  . * I
+     I      * .         . *      I
+     I           * . *           I
+   - I           0 I           + I
+  -------      -------      -------
+ I 11  I      I 11  I      I 12  I
+  -------      -------      -------
+
+                   I
+       ----------------------------------------
12     I ICNT(K) =I+1                         I
+      I IREM =IREM-1                         I
+       ----------------------------------------
+                   I
+                   I
+              -------
+              I 20  I
+              -------
+
+
+
+                   I
+       ----------------------------------------
11     I ICNT(K) =I                           I
+       ----------------------------------------
+                   I
+
20 ++++++++CONTINUE
                    I
          ----------------------  ----------------
          I IREM =IDATA(I)-II                    I
          I IK   =0                              I
          ----------------------------------------
                    I
```

(CONTINUED ON PAGE 37)

```
                    I
          ICRT=1
                    I
                 +------------+
                 +            +
          +++++++++++         +
          +        +  IP=1,NUMI    +
          +        +------------+
          +                 I
          +                 I
          +      ----------------------------------------
          +      I IK    =IK+1                           I
          +      ----------------------------------------
          +                 I
          +                 I
          +                 I
          +            . *   * .
          +        . *     IF      * .
          +      *(IK.GT.IDATA(L))    *
          +    1 * .                 . * 1
          +    I      * .         . *     I
          +    I           * . *          I
          +  - I           0 I           + I
          + -------      -------      -------
          + I GOTO15     I     I      I     I
          + -------      -------      -------
          +
          +
          +      ICLASS(IP,ICRT)=IK
          +
25 ++++++++CONTINUE
                    I
          ----------------------------------------
          I ICRT =ICRT+1                            I
          ----------------------------------------
                    I
                    I
                    I
            . *   * .
        . *     IF      * .
      *   (ICRT.LE.I)      *
    1 * .                 . * 1
    I      * .         . *     I
    I           * . *          I
  - I           0 I           + I
 -------      -------      -------
 I GOTO10     I     I      I     I
 -------      -------      -------

                    I
          ----------------------------------------
          I IP    =(NGMI-IREM)+L                    I
          ----------------------------------------
                    I
```

(CONTINUED ON PAGE 38)

```
                    I
                    I
                +-----------+
               + DO          +
+++++++++++    61            +
+            + IP=IX,NCMI    +
+             +-----------+
+                   I
+                   I
+         ----------------------------------------
+         I IK    =IK+1                          I
+         ----------------------------------------
+                   I
+                   I
+                   I
+                . *   * .
+           . *     IF      * .
+        *(IK.GT.IDATA(I))    *
+     I * .                  . * I
+     I      * .          . *     I
+     I           * . *           I
+  -.I            * I            + I
+ -------        -------        -------
+ I GOTO18       I     I        I     I
+ -------        -------        -------
+
+
+         ICLASS(IP,ICRT)=IK
+
61 ++++++++CONTINUE

39          CONTINUE
                    I
                +-----------+
               + DO          +
+++++++++++    50            +
+            + I=1,NGMI      +
+             +-----------+
+                   I
+
+         CALL HEADPG(IRPT,PAGE)
+
+      ***WRITE(IPT,31) INLFS,I,(LCC(I,J),J=1,20)
+
31 +         FORMAT(1H0,//43X,'REMEDIAL SESSION - LESSON PLAN - LESSON ',I3//21
+         X,'SESSION ',I3,5X,'PROF. AND/OR LOCATION  ',1X,20A4//32X,'INFORMIN
+         L OBJECTIVE',11X,'CUTOFF LEVEL',8X,'NO. OF STUDENTS'/32X,19('-'),1
+         1X,12('-'),8X,15('-')/)
+                    I
+         ----------------------------------------
+         I K1    =ICNT(I)                       I
+         ----------------------------------------
+                    I
```

(CONTINUED ON PAGE 39)

```
***  P... ... IDATIC MANUAL  *** ...  VERSION ...
+
+                I
+                I
+          +------------+
+        + 30           +
++++++++++    40         +
+        + J=1,K1        +
+          +------------+
+                I
+
+     ***WRITE(IPT,45)IVEX(ICLASS(I,J),1),LEVELS(IVEX(ICLASS(I,J),1)),IVEX(
+        ICLASS(I,J),2)
+
45 +        FORMAT(1H0,24X,I4,25X,I4,19X,I5)
+
40 ++++++++CONTINUE
+
30 ++++++++CONTINUE

           CALL CONKER(INLES,IDATA,ITOS,LEVELS,ICLASS,IVEX,NCLAS,NSTU,IC NT,LO
           C)

        ***RETURN

           END

           SUBROUTINE CONKER (INLES,IDATA,ITOS,LEVELS,ICLASS,IVEX,NCLAS,NSTU,
           ICNT,LOC)

           DIMENSION ICNT(10),IVEX(200,2),LOC(10,20),ICLASS(10,20),IDATA(5)

           DIMENSION ITOS(200),LEVELS(200),NCLAS(10,100),IREJCT(20)

           INTEGER*2 INFORM(12),DATE(4),TIME(4),RECD(65),STDATA(2,11),ICTR(11)

           EQUIVALENCE (INFORM(5),DATE(1)),(INFORM(9),TIME(1))

           COMMON/FILES/ICD,IP1,IPT,IP2,ISCH,THEAD,LOCI,IQUEST,ISTUD,ICOD ,I
           TEXT,ISYS,IP3,IP4,IP5
                    I
           ----------------------------------------
           I IRPT =13                              I
           I IPAGE=1                               I
           ----------------------------------------
                    I

           CALL INFO(INFORM)
                    I
           ----------------------------------------
           I ISEED=DATE(2)+DATE(3)+TIME(4)         I
           I ISEED=IABS(ISEED)                     I
           I ISEED=((ISEED/8)*2)+1                 I
           ----------------------------------------
                    I

           CALL RANDU(ISEED,IY,YFL)
                    I
           ----------------------------------------
           I INUM =YFL*IDATA(2)                    I
           ----------------------------------------
                    I
```

(CONTINUED ON PAGE 40)

```
                    I
            INAV=INUM-1
                    I
                +------------+
                + DO         +
++++++++++      5            +
+           + I=1,NGMI       +
+           +------------+
+                   I
+                   I
+           +------------+
+           + DO         +
++++++++++      4            +
+           + J=1,NSTUD      +
+           +------------+
+                   I
+                   I
+         ------------------------------------------
4 ++++++++I NCLAS(I,J) =0                          I
+         ------------------------------------------
+                   I
+         ------------------------------------------
5 ++++++++I ICTO(1) =0                             I
          I N     =NGMI+1                          I
          I ICTO(N) =0                             I
          I IRT   =IDATA(2)-INUM+1                 I
          I KI    =IDATA(2)                        I
          ------------------------------------------
                   I
                   I
                +------------+
                + DO         +
++++++++++    100            +
+           + IRCD=1,KI      +
+           +------------+
+                   I
+                   I
+                   I
+              . *   * .
+          . *    IF     * .
+       *  (IRCD.LE.IRT)     *
+     I * .                 . * I
+     I     * .         . *     I
+     I           * . *         I
+   - I           0 I           + I
+ -------       -------       -------
+ I CCTOIO      I     I       I     I
+ -------       -------       -------
+
+                   I
+         ------------------------------------------
+         I IV    =IV+1                            I
+         I IND   =IV                              I
+         ------------------------------------------
+                   I
+                   I
```

(CONTINUED ON PAGE 41)

```
*** 2 J  * LOGIC GENERAL *** ...
 +
 +                I
 +                I
 +             -------
 +             I  II  I
 +             -------
 +
 +
 +
 +                I
 +        ----------------------------------------
10 +      I IV    =5                               I
 +        I INO   =INUM+(IRCD-1)                   I
 +        ----------------------------------------
 +                I
 +        ----------------------------------------
11 +      I JSC   =(4*INC)-3                       I
 +        ----------------------------------------
 +                I
 +
 +    ***READ(ISCH'JSC)(STDATA(J),J=1,65)
 +                I
 +        ----------------------------------------
 +        I JSC   =JSC+1                           I
 +        ----------------------------------------
 +                I
 +
 +    ***READ(ISCH'JSC)(STDATA(J),J=66,130)
 +                I
 +        ----------------------------------------
 +        I JSC   =JSC+1                           I
 +        ----------------------------------------
 +                I
 +
 +    ***READ(ISCH'JSC)(STDATA(J),J=131,195)
 +                I
 +        ----------------------------------------
 +        I JSC   =JSC+1                           I
 +        ----------------------------------------
 +                I
 +
 +    ***READ(ISCH'JSC)(STDATA(J),J=196,201)
 +                I
 +                I
 +            . *   * .
 +        . *     IF      * .
 +      *(STDATA(201).EQ.0) *
 +    1 * .                 . * 1
 +    1     * .         . *     1
 +    1         * . *           I
 +  - I         0 I           + I
 + -------     -------       -------
 + I GOTO100   I     I       I     I
 + -------     -------       -------
 +
 +                I
 +        ----------------------------------------
 +        I ISAVE=0                                I
 +        ----------------------------------------
 +                I
```

(CONTINUED ON PAGE 42)

```
+
+                    I
+        ISUM=0
+                    I
+            +------------+
+          + DO            +
++++++++++     50          +
+          + I=1,NSMI      +
+            +------------+
+                    I
+                    I
+        ----------------------------------------
+        I J1    =ICNT(I)                        I
+        I ISUM =0                               I
+        ----------------------------------------
+                    I
+                    I
+            +------------+
+          + DO            +
++++++++++     40          +
+          + J=1,J1        +
+            +------------+
+                    I
+                    I
+        ----------------------------------------
+        I K     =IVEX(ICLASS(I,J),1)            I
+        I ISUM =ISUM+STDATA(K)                  I
+        ----------------------------------------
+                    I
+
40 ++++++++CONTINUE
+                    I
+                    I
+                . *   * .
+            . *    IF     * .
+        * (ISUM.LT.ISUM)     *
+     I * .                 . * I
+     I      * .        . *     I
+     I          * . *          I
+  - I           0 I           + I
+ -------      -------      -------
+ I GOTOIO     I     I      I     I
+ -------      -------      -------
+
+                    I
+        ----------------------------------------
+        I ISAVE =ISUM                           I
+        I ISAVI=ISAVE                           I
+        I ISUM =ISUM                            I
+        I ISAVI=I                               I
+        ----------------------------------------
+                    I
+                    I
```

(CONTINUED ON PAGE 43)

```
+
+                I
+                I
+             -------
+             I GO  I
+             -------
+
+
+                I
+                I
+            . *   * .
+        . *    IF     * .
+      * (ISP.LT.ISAM)     *
+    I * .                 . * I
+    I     * .         . *     I
+    I         * . *           I
+  - I         * I           * I
+ -------     -------       -------
+ I GOTO10    I     I       I     I
+ -------     -------       -------
+
+                I
+        ----------------------------------------
+        I ISAM =ISOM                            I
+        I ISAV1=I                               I
+        ----------------------------------------
+                I
+
50 ++++++++CONTINUE
+                I
+                I
+            . *   * .
+        . *    IF     * .
+      *(ICTO(ISAVE).GE.NSTUD)
+    I * .                 . * I
+    I     * .         . *     I
+    I         * . *           I
+  - I         * I           + I
+ -------     -------       -------
+ I GOTO10    I     I       I     I
+ -------     -------       -------
+
+                I
+        ----------------------------------------
+        I ICTO(ISAVE) =ICTO(ISAVE)+1            I
+        ----------------------------------------
+                I
+
+        NCLAS(ISAVE,(ICTO(ISAVE)))=IND
+                I
```

(CONTINUED ON PAGE 44)

```
     +
     +                I
     +                I
     +             -------
     +             I 100 I
     +             -------
     +
     +
     +
     +                I
     +                I
     +            . *   * .
     +         . *    IF     * .
     +      F(ICT(ISAV1).GE.NSTUD)
     +    I * .                  . * I
     +    I      * .         . *     I
     +    I          * . *           I
     +  - I          * I           + I
     + -------      -------       -------
     + I ICTGIO     I     I       I     I
     + -------      -------       -------
     +
     +                I
     +        ------------------------------------------
     +        I ICTO(ISAV1) =ICTO(ISAV1)+1              I
     +        ------------------------------------------
     +                I
     +
     +        NCLAS(ISAV1,(ICTO(ISAV1)))=IND
     +                I
     +             -------
     +             I 100 I
     +             -------
     +
     +
     +
     +                I
     +        ------------------------------------------
  70 +        I N     =NGM[+1                           I
     +        I ICTO(N) =ICTO(N)+1                      I
     +        ------------------------------------------
     +                I
     +
     +        IPEJCT(ICTO(N))=IND
     +
 100 ++++++++CONTINUE
                      I
                +------------+
               + DO          +
     ++++++++++   200         +
     +         + I=1,NGMI     +
               +------------+
                      I
     +
     +        CALL HEADPG(IRPT,IPAGE)
     +                I
     +        ------------------------------------------
     +        I II    =ICNT(I)                          I
     +        ------------------------------------------
```

(CONTINUED ON PAGE 45)

```
PRO   LOGI( MEDIAL  ASSI A.I.E.S. VERSION  TIT   F  AB.
+
+                I
+
+    ***WRITE(IPT,110)INLES,I,(ICC(I,J),J=1,20),(IV MEI I.SC(I,1),1),...,(
+       I)
+
110 +       FORMAT(1H0,43X,'REMEDIAL ASSIGNMENT CLUSTER'/44X,23('-')//47X,'
+       ',I3/47X,10('-')//47X,' ASSIGN ',I3/47X,11('-')//20X,'RESULT
+       LOCATION- ',20A4///45X,'TERMINAL OBJECTIVES'/40X,40('-')//10X,'
+       MINAL OBJECTIVE NUMBERS-   ',20I4)
+
+    ***WRITE(IPT,109) (L VELS(IVEX(ICLASS(I,J),1)),J=1,I)
+
109 +       FORMAT(1H0,9X,'THRESHOLD LEVELS SET AT   -   ',20I4)
+
+    ***WRITE(IPT,111)
+
111 +       FORMAT(1H0,'THE FOLLOWING STUDENTS HAVE DEL  AS,I.E.D TO THIS
+       DIAL SESSION'//7X,'STUDENT NAME',10X,'NUM--',1-X,'P.ST TEST
+       R ON THE ABOVE TERMINAL OBJECTIVES'/1X,26('-'),2X,.('-'),2X,(('-'
+       ))
+                I
+       ----------------------------------------
+       I K    =ICTC(I)                        I
+       ----------------------------------------
+                I
+                I
+                I
+            . *   * .
+        . *    IF     * .
+      *    (K.GT.0)        *
+    I * .                . * I
+    I     * .        . *     I
+    I          * . *         I
+  - I          0 I          + I
+ -------      -------      -------
+ I GOTO112    I     I      I     I
+ -------      -------      -------
+
+
+    ***WRITE(IPT,220)
+
220 +       FORMAT(1H0,10X,'****    NO STUDENTS ASSIGNED TO THIS SESSION    **
+       **')
+                I
+              -------
+              I 200 I
+              -------
+
+
+
+                I
```

(CONTINUED ON PAGE 46)

```
     +
     +                I
     +                I
     +          +------------+
 312 +          + DO         +
     +++++++++++   150        +
     +          + IV=1,K     +
     +          +------------+
     +                I
     +
 310 +       CONTINUE
     +
     +    ***READ(ISTUD'NCLAS(I,IV))PRCD
     +
 309 +       CONTINUE
     +                I
     +       ----------------------------------------
     +       I IND  =NCLAS(I,IV)                    I
     +       I IPT  =(4*IND)-3                      I
     +       ----------------------------------------
     +                I
     +
     +    ***READ(ISCH'IBT)(STDATA(J),J=1,35)
     +
 308 +       CONTINUE
     +                I
     +       ----------------------------------------
     +       I IBT  =IBT+1                          I
     +       ----------------------------------------
     +                I
     +
     +    ***READ(ISCH'IBT)(STDATA(J),J=36,130)
     +
 307 +       CONTINUE
     +                I
     +       ----------------------------------------
     +       I IBT  =IBT+1                          I
     +       ----------------------------------------
     +                I
     +
     +    ***READ(ISCH'IBT)(STDATA(J),J=131,195)
     +
     +       CONTINUE
     +                I
     +       ----------------------------------------
     +       I IBT  =IBT+1                          I
     +       ----------------------------------------
     +                I
     +
     +    ***READ(ISCH'IBT)(STDATA(J),J=196,201)
     +
     +       CONTINUE
     +                I
     +       ----------------------------------------
     +       I KT   =ICNT(I)                        I
     +       ----------------------------------------
     +                I
     +                I
```

(CONTINUED ON PAGE 47)

```
*** LOGIC ERROR ***  ...  WRITE ...
+
+                I
+
311 +       CONTINUE
+
+    ***WRITE (IPT,215)(PFCD(J),J=6,18),NCLAS (I,I2),(STUNAT(IV(I,J),J),
+       J),I)),J=1,KT)
+
215 +       FORMAT(1H ,13A2,3X,I5,5X,2I4)
+
+++++++++CONTINUE
+
206 ++++++++CONTINUE
                 I
          ----------------------------------------
          I N     =NOPI+1                        I
          I K     =ICTC(M)                       I
          ----------------------------------------
                 I
                 I
                 I
              . *   * .
          . *    IF      * .
         *    (K.LT.1)        *
       I * .                 . * I
       I     * .         . *     I
       I          * . *          I
    - I          0 I          + I
   -------      -------      -------
   I GOTO180    I     I      I     I
   -------      -------      -------


          CALL HEADPG(IRPT,IPAGE)

       ***WRITE(IPT,210)INLES

210       FORMAT(1H0,42X,'REMEDIAL SESSION ROSTER'/44X,23('-')//47X,'LESSON-
           ',I3/47X,11('-')//20X,     'THE FOLLOWING STUDENTS HAVE NOT BEEN
          FITTED INTO THEIR FIRST OR SECOND CHOICE'///10X,'ASSIGNMENT TO A
          SESSION WILL HAVE TO BE DONE BY THE PROFESSOR.'///)

       ***WRITE(IPT,205)

205       FORMAT(1H ,15X,'STUDENT NAME',12X,'NUMBER',5X,'SESSION ASSIGNMENT'
          /3X,26('-'),5X,5('-'),5X,20('-')//)
                 I
             +------------+
            + DO            +
++++++++++   250            +
+          + I=1,K         +
+           +------------+
+                I
+                I
+       ----------------------------------------
+       I K1    =IREJCT(I)                     I
+       ----------------------------------------
+                I
+                I
```

(CONTINUED ON PAGE 48)

```
+
+                I
+
+     ***READ(ISTUD'K1) RECO
+
+     ***WRITE(IPT,211)(RECO(J),J=6,10),IP,JCT(I)
+
211  +        FORMAT(1H ,7X,10A2,9X,I5)
+
+++++++++CONTINUE
280       ***RETURN
             END
             SUBROUTINE REPLI
             IMPLICIT INTEGER*2(K)
             INTEGER*2 CRNM(6),TP(5),RP,LN,ST,SC,NINFIL,NINCRS
             INTEGER*2 RESREC(65),RVOL,RCSN,RSC,RTP
             INTEGER*2 STDBCK(65),OUTCHK(10),STDNME(13)
             INTEGER IOTPT/3/,INPTC/1/,IRLSPT/4/,IAIMSY/12/,ISTDBK/8/
             INTEGER OUTPUT(2)/'SUB.','NO/S'/
             INTEGER*2 CSN
             EQUIVALENCE (RVOL, RESREC(1)) , (RCSN,RESREC(2)),(RSC,RESREC(3))
             EQUIVALENCE (RTP,RESREC(4)),(STDNME(1),STDBCK(6)),(CSN,STDBCK(2))
             EQUIVALENCE (KDROP, STDBCK(24)) .
                      I
             ----------------------------------------
             I IPGF =1                              I
             I IRPT =11                             I
             ----------------------------------------
                      I
          ***READ(IAIMSY'1) NINFIL,NINCRS
          ***READ(INPTC,10) RP,LN,ST,SC,(TP(K),K=1,5),(CRNM(K),K=1,6)
10           FORMAT(I2,7X,3I2,5I1,9X,6A2)
070          CONTINUE
             CALL SUBMIT(TP,ST)
                      I
             ----------------------------------------
             I ERPRD=0                              I
             I KSTD =1                              I
             ----------------------------------------
                      I
                      I
```

```
                    I
010     ***READ(IRESPT, NO=200) KTSPEC
                    I
                    I
                 . *   * .
              . *    IF     * .
            *     (LR-2VOL)       *
          I * .                 . * I
          I     * .         . *     I
          I          * . *          I
        - I          0 I          * I
        -------      -------      -------
        I 2030I      I 2020I      I 2010I
        -------      -------      -------

020         CONTINUE

            CALL CHECK(RCSN,RTP,RSG)
                    I
                 -------
                 I 2010I
                 -------


                    I
            ----------------------------------------
030         I ERRRD=-1                             I
            ----------------------------------------
                    I

            BACKSPACE IRESPT

000         CONTINUE
                    I
            ----------------------------------------
            I KPGE =(KINFIL/45)+1                  I
            ----------------------------------------
                    I
                    I
                +------------+
              + DO           +
     ++++++++++  3000          +
     +          + KD2=1,KPGE   +
     +           +------------+
     +                I
     +
     +       CALL HEADPG(IRPT,IPGE)
     +
     +    ***WRITE(IOTPT,510)
     +
510  +       FORMAT(  45X,'*** VOLUME SUBMITTAL REVIEW ***')
     +
     +    ***WRITE(IOTPT,515) (CRNM(K),K=1,6),LN
     +                I
```

(CONTINUED ON PAGE 50)

```
     +
     +                I
     +
 515 +       FORMAT( /,40X,'COURSE ',6A2,5X,'VOLUME NO.  ',I3)
     +
     +    ***WRITE(IOTPT,550)
     +
 550 +       FORMAT(/,24X'NOTE, NO/S - SIGNIFIES THAT STUDENT DID NOT SUBMIT
     +       ATERIALS FOR PROCESSING',
     +       /,31X'SUB. - SIGNIFIES THAT STUDENT DID SUBMIT MATERIALS FOR
     +       SSING',/)
     +
     +    ***WRITE(IOTPT,530)
 530 +       FORMAT  (10X,'STUDENT',15X,'CSN  DOB.',5(3X,'STUDY'),
     +       '  ASSIGN    HOME    POST',/,
     +       37X,'TEST   GDE(1)  GDE(2)  GDE(3)  GDE(4)  GDE(5)',
     +       11X,'WORK    TEST')
     +                I
     +           +-----------+
     +         + DO          +
     ++++++++++  3010         +
     +         + KD3=1,45    +
     +           +-----------+
     +                I
     +
     +    **READ(ISTDBK'KSTD)STDBCK
     +                I
     +                I
     +            . *   * .
     +         . *    IF     * .
     +       *  (KDROP.EQ.I)     *
     +    1 * .                . * 1
     +    I .    * .        . *     I
     +    I          * . *         I
     +  - I          0 I          + I
     + -------      -------      -------
     + I GOTO1030   I     I      I     I
     + -------      -------      -------
     +
     +
     +       CALL GETCHK(CSN,OUTCHK)
     +       WRITE(IOTPT,520) (STDNME(K1),K1=1,13),CSN,(OUTPUT(OUTCHK(K2)),
     +       K2=1,9)
     +                I
     +              -------
     +              I 1070I
     +              -------
     +
     +
     +
     +
1030 +    ***WRITE(IOTPT,540)(STDNME(K1),K1=1,13),CSN
     +                I
```

(CONTINUED ON PAGE 51)

```
     +
     +                I
     +                I
     +                I
2070 +            . *   * .
     +         . *    IF     * .
     +      *(KSTO.GE.KINFTI)    *
     +    L * .                . * L
     +    I     * .        . *     I
     +    I         * . *          I
     +  - I         0 I          + I
     + -------      -------      -------
     + I GOTO1000   I     I      I     I
     + -------      -------      -------
     +
     +                I
     +        ----------------------------------------
     +        I KSTO =KSTO+1                         I
     +        ----------------------------------------
     +                I
     +
2010 ++++++++CONTINUE
     +
2020 ++++++++CONTINUE
                      I
                      I
                  . *   * .
              . *    IF     * .
           *  (ERRRD.EQ.0)      *
         L * .                . * L
         I     * .        . *     I
         I         * . *          I
       - I         0 I          + I
      -------      -------      -------
      I GOTO1999   I     I      I     I
      -------      -------      -------

                      I
             ----------------------------------------
             I LN    =RVOL                          I
             ----------------------------------------
                      I
                      I
                  -------
                  I 20701
                  -------


520          FORMAT(1X,12A2,A1,6X     ,I3,2X,9(A4,4X))

540          FORMAT(1X,12A2,A1,6X,I3,'   STUDENT DROPPED')

2999      ***RETURN
                      I
```

(CONTINUED ON PAGE 52)

```
                    I
          END
          SUBROUTINE REP12
          INTEGER*2 STOBCK(65),STDNME(13),CRNM(6), INFIL,NINCRS
          EQUIVALENCE (STDNME(1),STOBCK(6))
          DATA INPTC,IOTPT,ISTDB,IAIMSY,IPGE/1,3,9,12,1/
                    I
          ----------------------------------------
          I JSTD =1                                I
          ----------------------------------------
                    I
      ***READ(INPTC,10)RP,(CRNM(K),K=1,6)
      ***READ(IAIMSY'1)NINFIL,NINCRS
                    I
          ----------------------------------------
          I KDUM2=(NINFIL/48)+1                    I
          ----------------------------------------
                    I
                    I
             +------------+
            + DO          +
++++++++++  1000           +
+           + KDUM1=1,KDUM2+
+            +------------+
+                   I
+
+         CALL HEADPG(RP,IPGE)
+
+     ***WRITE(IOTPT,520)(CRNM(K),K=1,6)
+
+     ***WRITE(IOTPT,530)
+                   I
+            +------------+
+           + DO          +
++++++++++  1100           +
+           + KDUM3=1,48   +
+            +------------+
+                   I
+
+     ***READ(ISTDB'JSTD)STOBCK
+        WRITE(IOTPT,510)(STDNME(K2),K2=1,13),(STOBCK(K3),K3=19,23),STOBCK(
+        2)
+                   I
```

(CONTINUED ON PAGE 53)

```
+
+                    I
+                    I
+                    I
+                . *   * .
+            . *     IF     * .
+        *(JSTO.GE.NINFIL)    *
+     I * .                  . * I
+     I     * .          . *     I
+     I           * . *          I
+   - I           ( I           + I
+ -------       -------       -------
+ I GOTO1000)  I      I      I      I
+ -------       -------       -------
+
+                    I
+          ----------------------------------------
+          I JSTO =JSTO+1                          I
+          ----------------------------------------
+                    I
+
100 ++++++++CONTINUE
+
000 ++++++++CONTINUE

 10         FORMAT(12,27X,6A2)

 510        FORMAT(1X,12A2,A1,5X,5A2,5X,I4)

 520        FORMAT(35X,'*** CLASS ROSTER ***',/,25X,'COURSE ',5A2,//)

 530        FORMAT(10X,'STUDENT',14X,'ACADEMY',8X,'COURSE',/,33X,'NO.',10X,
            'STD.NO.')

        ***RETURN

            END

            SUBROUTINE REP14

            IMPLICIT INTEGER*2 (K)

            INTEGER*2 RLN,ERRG

            INTEGER*2 NINFIL,NINCRS

            INTEGER*2 CRNM(6),TP(5),TF

            INTEGER*2 RP,LN,ST,SC,CTOT,EH,JSTO,KDROP,TESTCT,STDNO

            INTEGER*2 STDNME(13),OUTPUT(13)

            EQUIVALENCE (JSTO,STDNO)

            INTEGER INPTC/1/,IOTPT/3/,IRESPT/4/,IATHSY/12/
                      I
            ----------------------------------------
            I IRPT =14                              I
            ----------------------------------------
                      I
                      I
```

(CONTINUED ON PAGE 54)

```
                    I
      ***READ(IGI,SYS1) NINFIL, NINCRS
      ***READ(INPTC,10) RP,LN,ST,SC,(TP(J),J=1,5),(CTCT(J1),J1=1,..)
         CALL CPRAVE(NINFIL)
         CONTINUE
                    I
         ----------------------------------------
         I JSTD =1                                I
         I IPGE =1                                I
         ----------------------------------------
                    I
         CALL HEDREC(RP,LN,ST,TP,CTCT,EM)
                    I
                    I
                 . *   * .
              . *    IF     * .
           *     (EM.NE.0)       *
        I * .                  . * I
        I      * .        . *      I
        I          * . *           I
     - I           0 I           + I
   -------       -------       -------
   I GOTO190     I     I       I     I
   -------       -------       -------

         CALL SUBMIT(TP,ST)
         CALL GETREC(RP,LN,PLN,NINFIL,NINCRS,CTCT,EERG)
         CALL GRPST
         CALL REP13(CRNM)
                    I
         ----------------------------------------
         I JDUM2=(NINFIL/45)+1                    I
         ----------------------------------------
                    I
                    I
                 +------------+
                + DO           +
++++++++++      1100           +
+              + JDUM1=1,JDUM2+
+               +------------+
+                   I
+
+        CALL HEADPG(IRPT,IPGE)
+
+     ***WRITE(IOTPT,510)
+
+     ***WRITE(IOTPT,515)(CRNM(K),K=1,6),LN
+                   I
```

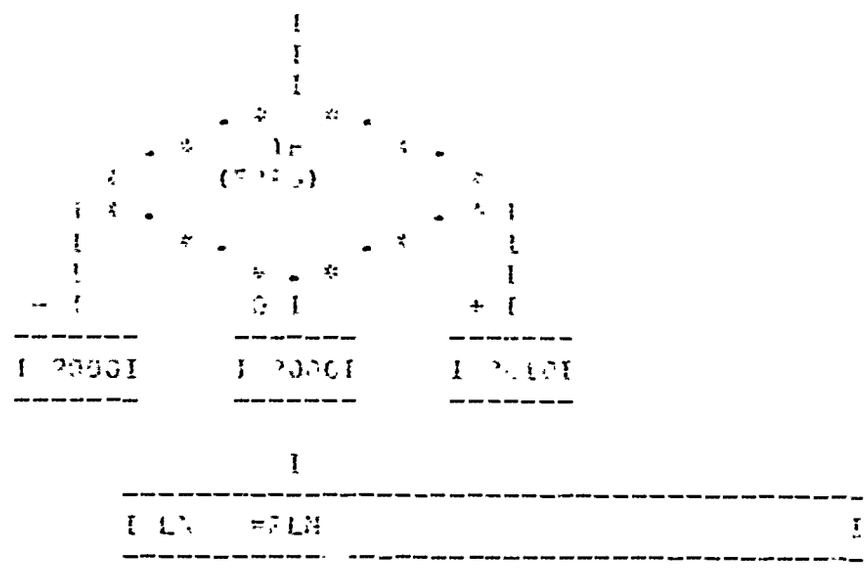
(CONTINUED ON PAGE 55)

```
+
+                    I
+
+     ****WRITE(ITCT,501)
+
+     ****WRITE(2,530)
+                    I
+            +-------------+
+          + DO                +
++++++++++  1030               +
+          + JDUMD=1,45        +
+            +----  -------+
+                    I
+
+        CALL GETWHS(ISTD,STOWN,OUTPUT,RDUMP,IESTCT)
+                    I
+                    I
+              . *   * .
+          . *     IF      * .
+        *  (KDRUP.EQ.1)       *
+     1 * .                  . * 1
+     1      * .         . *      1
+     1           * . *           1
+  - 1           0 I            + I
+ -------       -------        -------
+ I GOTO1030    I     I        I     I
+ -------       -------        -------
+
+                    I
+                    I
+              . *   * .
+          . *     IF      * .
+        *  (IESTCT.EQ.0)      *
+     1 * .                  . * 1
+     1      * .         . *      1
+     1           * . *           1
+  - I           0 I            + I
+ -------       -------        -------
+ I GOTO1040    I     I        I     I
+ -------       -------        -------
+
+                    I
+                    I
+              . *   * .
+          . *     IF      * .
+        * (TESTCT.EQ.-2)      *
+     1 * .                  . * 1
+     1      * .         . *      1
+     1           * . *           1
+  - I           0 I            + I
+ -------       -------        -------
+ I GOTO1050    I     I        I     I
+ -------       -------        -------
+
+                    I
```

(CONTINUED ON PAGE 56)

```
     +
     +                I
     +
     +       CALL GETCUN(JSTO, MTPUT)
     +
     +    ***WRITE(IOTPT,520)(STDNMC(K4),K4=1,13),STDNO,(MTPUT(K4),K4=1,13)
     +                I
     +             -------
     +             I 1070I
     +             -------
     +
     +
     +
     +
 030 +    ***WRITE(IOTPT,540)(STDNMC(K5),K5=1,13),STDNO
     +                I
     +             -------
     +             I 1070I
     +             -------
     +
     +
     +
     +
 040 +    ***WRITE(IOTPT,550)(STDNMC(K5),K5=1,13),STDNO
     +                I
     +             -------
     +             I 1070I
     +             -------
     +
     +
     +
     +
 050 +    ***WRITE(IOTPT,560)(STDNMC(K5),K5=1,13),STDNO
     +                I
     +                I
 070 +            . *   * .
     +        . *    IF     * .
     +      *(JSTO.GE.NINFIL)    *
     +    I * .                . * I
     +    I     * .        . *     I
     +    I         * . *         I
     +  - I         0 I          + I
     +  -------     -------      -------
     +  I GOTOI100  I     I      I     I
     +  -------     -------      -------
     +
     +                I
     +        ----------------------------------------
     +        I JSTO =JSTO+1                         I
     +        ----------------------------------------
     +                I
     +
 000 +++++++++CONTINUE
     +
 100 +++++++++CONTINUE
                      I
```

(CONTINUED ON PAGE 57)



```
      CONTINUE

      CALL OUTCOM(LN,CRN4)

 16   FORMAT(I2,7X,3I2,5I1,9X,6A2)

 17   FORMAT(62X,I2)

 14   FORMAT(10(I5,I3))

 501  FORMAT(1H0)

 510  FORMAT( 39X,'*** INDIVIDUAL VOLUME STATISTCS ***')

 515  FORMAT( 35X,'COURSE, ',6A2,10X,'VOLUME NO. ',I3)

 520  FORMAT(1X,12A2,A1,8X      ,I3,13(2X,I4,'.'))
 530  FORMAT( 53X,'ABS.   REL.',10X,'POST',10X,'ABS.   REL.   CM.AV. ',
      'CM.AV. CM.AV. CM.AV.',/,
      10X'STUDENT',17X,'CSN  CAPB.  PERF.  PERF.  PERF.  PROB.  TCST'
      ,'   NET    ACH.   ACH.   PROB.  PT.TS. NET    REL.',/,
      39X,'INDEX  INDEX  DEV.   DEV.   ACH.   ACH.   ACH.   DEV.   ',
      'DEV.   ACH.   ACH.   ACH.   ACH.DEV.')

 540  FORMAT(1X,12A2,A1,8X,I3,6X,'STUDENT DROPPED')
 550  FORMAT(1X,12A2,A1,8X,I3,6X,'THIS STUDENT DOES NOT HAVE ANY TCSTS O
      R MATERIALS TO BE PROCESSED')
 560  FORMAT(1X,12A2,A1,8X,I3,6X,'THIS STUDENT HAS INSUFFICIENT MATERIAL
      S TO BE PROCESSED')
```

(CONTINUED ON PAGE 58)

```
                    I
      ***RETURN
         END
         SUBROUTINE CUMAVT(NN)
         INTEGER*2 OUTPUT(13),CUMSL(4),CUMNL(4),NF,CSN
         INTEGER*2 LN,CRDN(4)
         INTEGER INPTC/17/,ISCRAT/5/,IPUNH/2/
      ***READ(INPTC,15) LN
15       FORMAT(70X,I3)
                    I
              +------------+
              + DO         +
++++++++++    1000         +
+             + KCSN=1,NF  +
+             +------------+
+                   I
+
+     ***READ(INPTC,10) CSN,(CUMSL(K),CUMNL(K),K=1,4)
+
10 +     FORMAT(I3,4(I5,I3))
+                   I
+        ----------------------------------------
+        I JSN  =CSN/L                           I
+        ----------------------------------------
+                   I
+
+     ***WRITE(ISCRAT'JSN) CSN,(CUMSL(K),CUMNL(K),K=1,4)
+
1000 ++++++++CONTINUE
      ***RETURN
         ENTRY GETCUM(CSN,OUTPUT)
                    I
         ----------------------------------------
         I JSN  =CSN/L                           I
         ----------------------------------------
                    I
      ***READ(ISCRAT'JSN) CSN,(CUMSL(K),CUMNL(K),K=1,4)
                    I
              +------------+
              + DO         +
++++++++++    2000         +
+             + K=1,3      +
+             +------------+
+                   I
+                   I
+        ----------------------------------------
+        I CUMSL(K) =CUMSL(K)+OUTPUT(K+4)        I
+        ----------------------------------------
```

(CONTINUED ON PAGE 59)


```
+
+                    I
+        CUMNL(K)=CUMNL(K)+1
+
2000 ++++++++CONTINUE
                     I
         ----------------------------------------
         I CUMSL(4) =CUMSL(4)+OUTPUT(9)          I
         I CUMNL(4) =CUMNL(4)+1                  I
         ----------------------------------------
                     I
                     I
            +------------+
           + DO          +
++++++++++  2010          +
+          + K=10,13      +
            +------------+
                     I
                     I
         ----------------------------------------
         I OUTPUT(K) =CUMSL(K-9)/CUMNL(K-9)      I
         ----------------------------------------
                     I
+
2010 ++++++++CONTINUE

      ***WRITE(ISCRAT'JSN) CSN,(CUMSL(K),CUMNL(K),K=1,4)

      ***RETURN

         ENTRY OUTCUM(LN,CRNM)

      ***WRITE(IPUNH,20)(CRNM(K1),K1=1,6),LN
20       FORMAT(' HEADER RECORD FOR CUM. AVE. REPORT IN CDCSC',1A ,
         ' VOLUME NO. ',I3)
                     I
            +------------+
           + DO          +
++++++++++  3000          +
+          + JNF=1,NF     +
            +------------+
+                    I
+
+     ***READ(ISCRAT'JNF) CSN,(CUMSL(K),CUMNL(K),K=1,4)
+
+     ***WRITE(IPUNH,10) CSN,(CUMSL(K),CUMNL(K),K=1,4)
+
3000 ++++++++CONTINUE

      ***RETURN

         END

         SUBROUTINE GETREC(RP,LN,RLN,NF,NC,CTQT,CC)

         INTEGER*2 RP,NF,NC,CTQT,LN

         INTEGER*2 DS(185,11),DC(185)
                     I
```

(CONTINUED ON PAGE 60)

```
                    I
          INTEGER*2 GRAD,RLN,CSN,RSG,RTP,EG
          INTEGER*2 OUTCHK(10),KST
          INTEGER*2 CRNY(6)
          INTEGER*2 OID(5)/1,2,5,10,11/
                    I
             +------------+
            + DO          +
+++++++++  1000            +
+           + KD1=1,NF     +
+            +------------+
+                  I
+                  I
+       ----------------------------------------
+       I OC(KD1) =0                           I
+       ----------------------------------------
+                  I
+                  I
+            +------------+
+           + DO          +
+++++++++  1000            +
+           + KD2=1,11     +
+            +------------+
+                  I
+                  I
+       ----------------------------------------
+       I OS(KD1,KD2) =0                       I
+       ----------------------------------------
+                  I
+
1000 ++++++++CONTINUE

1000      CONTINUE

          CALL GRADE(GRAD,RLN,CSN,RSG,RTP,EG)
                    I
                    I
                 . *   * .
              . *    IF     * .
            *    (EG.NE.0)       *
         1 * .                 . * 1
         1     * .         . *     1
         1          * . *          I
       - I          0 I          + I
      -------      -------      -------
      I GOTO(010   I     I      I     I
      -------      -------      -------

          CALL CHECK(CSN,RTP,RSG)
                    I
          ----------------------------------------
          I IND  =OID(RTP+2*(RSG-1))             I
          ----------------------------------------
```

```
                    I
          US(CSN,I 0)=GRAD
                    I
                 -------
                 I 2000I
                 -------


10        CONTINUE
                    I
              +-----------+
             + DO         +
++++++++++  2200          +
+          + KST=1,NF     +
+           +-----------+
+                   I
+
+       CALL GETCHK(KST,OUTCHK)
+                   I
+           +-----------+
+          + DO         +
++++++++++  2300          +
+          + KD1=1,9      +
+           +-----------+
+                   I
+                   I
+                   I
+             . *   * .
+         . *    IF     * .
+      *(OUTCHK(KD1).EQ.1)OC(KST)=OC(KST)
+    I * .                 . * I
+    I     * .         . *     I
+    I          * . *          I
+  - I          0 I          + I
+ -------      -------      -------
+ I +1  I      I     I      I     I
+ -------      -------      -------
+
+
300 +++++++CONTINUE
+                   I
+                   I
+             . *   * .
+         . *    IF     * .
+      *(OC(KST).NE.CTQT.AND.OC(KST).NE.0)OC(KST)
+    I * .                 . * I
+    I     * .         . *     I
+    I          * . *          I
+  - I          0 I          + I
+ -------      -------      -------
+ I =-2 I      I     I      I     I
+ -------      -------      -------
+
+                   I
```

(CONTINUED ON PAGE 62)

```
     +
     +                    I
     +
 200 ++++++++CONTINUE

 10          FORMAT(1X,20I6)

 20       ***RETURN

             ENTRY GRPST

             INTEGER   GRPSTT(7,4),JO(7)

             INTEGER*2 STDWRK(185,13),STDBCK(65),SN(13),CAPI ,STDNO

             EQUIVALENCE (STDNO,STDBCK(2)),(CAPIN,STDBCK(25)),(SN,STDBCK(3))
                      I
             ----------------------------------------
             I WT    =3                              I
             I NGRPC=0                               I
             ----------------------------------------
                      I
                      I
                +------------+
               + DO           +
     ++++++++++  3000           +
     +         + NGT=1,7       +
     +          +------------+
     +                I
     +                I
     +       ----------------------------------------
     +       I GRPSTT(NGT,1) =1000                   I
     +       I GRPSTT(NGT,2) =0                      I
     +       I GRPSTT(NGT,3) =-1000                  I
     +       I GRPSTT(NGT,4) =0                      I
     +       ----------------------------------------
     +                I
     +
 300 ++++++++CONTINUE
                      I
             ----------------------------------------
             I IBCK =9                               I
             ----------------------------------------
                      I
                      I
                +------------+
               + DO           +
     ++++++++++  2110           +
     +         + K9=1,NF       +
     +          +------------+
     +                I
     +
     +    ***READ(IBCK'K9)STDBCK
     +                I
```

(CONTINUED ON PAGE 63)

```
+
+                    I
+                    I
+                    I
+                . *   * .
+            . *    IF     * .
+        *(STOBCK(24).EQ.1)GO(STONO)
+      1 * .                  . * 1
+      1      * .        . *      1
+      1           * . *           1
+   - 1           0 1            + 1
+ -------       -------       -------
+ 1 =-1 1       1     1       1     1
+ -------       -------       -------
+
+                    I
+                    I
+                . *   * .
+            . *    IF     * .
+        *(CAPIN.EQ.-999)GO(STONO)
+      1 * .                  . * 1
+      1      * .        . *      1
+      1           * . *           1
+   - 1           0 1            + 1
+ -------       -------       -------
+ 1 =-2 1       1     1       1     1
+ -------       -------       -------
+
+                    I
+          ----------------------------------------
+          I OS(STONO,1) =CAPIN                    I
+          ----------------------------------------
+                    I
+                    I
+             +------------+
+            + DO          +
++++++++++   2120           +
+            + K8=1,13     +
+             +------------+
+                    I
+
+          STONME(STONO,K8)= SN(K8)
+
 120 +++++++CONTINUE
+
 110 ++++++++CONTINUE
                    I
             +------------+
            + DO          +
++++++++++   2100           +
+           + KSTO=1,NF    +
             +------------+
+                    I
+                    I
```

(CONTINUED ON PAGE 64)

```
+
+                  I
+                  I
+                  I
+              . *   * .
+          . *     IF      * .
+       *(DC(KSTD).EQ.-2.OR.DC(KSTD).EQ.0)
+     I * .                    . * I
+     I      * .          . *      I
+     I           * . *            I
+   - I           C I            + I
+ -------       -------        -------
+ I GETTILOP    I     I        I     I
+ -------       -------        -------
+
+                  I
+        ----------------------------------------
+        I DS(KSTD,2) =(WT*DS(KSTD,10)+DS(KSTD,11))
+        I DS(KSTD,7) =(DS(KSTD,2)+DS(KSTD,5))    I
+        I DS(KSTD,3) =DS(KSTD,2)-DS(KSTD,1)      I
+        I DS(KSTD,8) =DS(KSTD,7)-DS(KSTD,1)      I
+        ----------------------------------------
+                  I
+                  I
+           +------------+
+          + DO            +
++++++++++  3010            +
+          + NGT=1,7        +
+           +------------+
+                  I
+                  I
+        ----------------------------------------
+        I JD(NGT) =DS(KSTD,NGT)/1                I
+        ----------------------------------------
+                  I
+
3010 ++++++++CONTINUE
+                  I
+           +------------+
+          + DO            +
++++++++++  3020            +
+          + NGT=1,7        +
+           +------------+
+                  I
+                  I
+        ----------------------------------------
+        I GRPSTT(NGT,1) =MINO(GRPSTT(NGT,1),JD(NGT))
+        I GRPSTT(NGT,3) =MAXO(GRPSTT(NGT,3),JD(NGT))
+        I GRPSTT(NGT,4) =GRPSTT(NGT,4)+JD(NGT)   I
+        ----------------------------------------
+                  I
+
3020 ++++++++CONTINUE
+                  I
+        ----------------------------------------
+        I NGRPC=NGRPC+1                          I
+        ----------------------------------------
+                  I
+                  I
```

```
+
+                    I
+
100 ++++++++CONTINUE
                     I
                     I
                  . *   * .
              . *    IF     * .
          *  (NGRPC.EQ.0)      *
       I * .                 . * I
       I     * .         . *     I
       I          * . *          I
    - I          0 I          + I
    -------      -------      -------
    I GOTO1050   I     I      I     I
    -------      -------      -------

                     I
                +------------+
               + DO            +
++++++++++  3030            +
+          + NGT=1,7       +
+           +------------+
+                    I
+
+        GRPSTT(NGT,2) = GRPSTT(NGT,4)/NGRPC
+
2030 ++++++++CONTINUE
                     I
             ----------------------------------------
             I GRPSTT(3,2) =GRPSTT(2,2)-GRPSTT(1,2)  I
             I GRPSTT(4,2) =GRPSTT(7,2)-GRPSTT(1,2)  I
             ----------------------------------------
                     I
                     I
                +------------+
               + DO            +
++++++++++  3040            +
+          + KSTD=1,NF     +
+           +------------+
+                    I
+                    I
+        ----------------------------------------
+        I OS(KSTD,4) =OS(KSTD,3)-GRPSTT(3,2)    I
+        I OS(KSTD,9) =OS(KSTD,8)-GRPSTT(4,2)    I
+        ----------------------------------------
+                    I
+
3040 ++++++++CONTINUE

1050      ***RETURN

             ENTRY REP13(CRNM)
                     I
             ----------------------------------------
             I IRPT =13                             I
             I IPAG =1                              I
             ----------------------------------------
                     I
```

(CONTINUED ON PAGE 66)

```
                    I
          IOTPT=3

          CALL HEADPG(IRPT,IPAG)

      **WRITE(IOTPT,510)(CRNM(K),K=1,5),LA
510       FORMAT(20X,'*** VOLUME STATISTICS ***',/,10X,'CLOSED ',I2,
          10X,'VOLUME NO.  ',I2,//,23X,'MINIMUM',27X,'MEAN',20X,'MAXIMUM')
          WRITE(IOTPT,520) (GRPSTT(1,KD),KD=1,3),
                           (GRPSTT(2,KD),KD=1,3),
                            GRPSTT(3,2),
                           (GRPSTT(5,KD),KD=1,3),
                           (GRPSTT(6,KD),KD=1,3),
                            GRPSTT(7,2),
                            GRPSTT(4,2)
520       FORMAT(1X,'CAPABILITY INDEX',          T20,3(I3,13X),/,
                1X,'PERFORMANCE INDEX',          T26,3(I3,10X),/,
                1X,'PERFORMANCE DEVIATION',      T30,I3,/,
                 1X'PROBLEM ACHIEVEMENT'         T20,3(I3,10X),/,
                 1X'POST TEST ACHIEVEMENT',      T26,3(I3,10X),/,
                1X,'NET ACHIEVEMENT INDEX',      T30,I3,/,
                1X,'ACHIEVEMENT DEVIATION',      T30,I3)

      **RETURN

          ENTRY GETRES(JSTD,SM,OUTPUT,KDROP, TESTCT)

          INTEGER*2 OUTPUT(13),JSTD,KDROP,TESTCT,SM(13)
                    I
            +------------+
           + DO          +
+++++++++  4000           +
+          + K1=1,9       +
+           +------------+
+                 I
+                 I
+       ----------------------------------------
+       I OUTPUT(K1) =GS(JSTD,K1)                I
+       ----------------------------------------
+                 I
+
4000 ++++++++CONTINUE
                  I
            +------------+
           + DO          +
+++++++++  4010           +
+          + K1=1,13      +
+           +------------+
+                 I
+                 I
+       ----------------------------------------
+       I SM(K1) =STDNMF(JSTD,K1)                I
+       ----------------------------------------
+                 I
+
4010 ++++++++CONTINUE
                  I
        ----------------------------------------
```

```
                    I
                    I
                    I
                 . *   * .
              . *    IF     * .
           *(DC(JSTD).EQ.-1)    *
        I * .                 . * I
        I     * .         . *     I
        I          * . *          I
     - I           C I           + I
     -------       -------       -------
     I KDCDI=1     I     I       I     I
     -------       -------       -------

                    I
            ----------------------------------------
            I IFSTCT =DC(JSTD)                     I
            ----------------------------------------
                    I

        ***RETURN

            END

            SUBROUTINE GRADE(GRAD,RLN,CSN,RSG,RTP,EG)

            IMPLICIT INTEGER*2 (K)

            INTEGER FILES(5)/12,6,8,4,0/,IRLSPT/4/,IQTPT/3/

            INTEGER*2 HDRC(12,48),HR(65),RESPR(65),ANS(48),NUMQT(12),TP(5)

            INTEGER*2 GRAD,CSN,RSG,RTP,EG,LN,ST,CTQT,EM,PLN

            INTEGER*2 COUNT,TPE,QNO,RIGHT,ITEST,SG,SM

            INTEGER*2 SUBGRD,SUMGRD,NUMRSP(12),HDRCD(48)

            EQUIVALENCE (RESPR(18),ANS(1)),(QNO,HR(13))
                    I
            ----------------------------------------
            I EG    =0                             I
            I GRAD  =0                             I
            I COUNT=0                              I
            ----------------------------------------
                    I

000         ***READ(IRESPT,END=9999)RESPR
                    I
            ----------------------------------------
            I RLN   =RESPR(1)                      I
            ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 68)

```
                    I
                    I
                    I
                 . *   * .
              . *   IF   : .
           *    (L*-L'*)      *
        I * .                . * I
        I     * .        . *     I
        I          * . *         I
     - I           0 I          + I
     -------      -------      -------
     I 3020I      I 3010I      I 3000I
     -------      -------      -------

010        CONTINUE
                    I
           ----------------------------------------
           I CSN   =RESPR(2)                      I
           I RSG   =RESPR(3)                      I
           I RTP   =RESPR(4)                      I
           I TPF   =RTP+2*(RSG-1)                 I
           I ONO   =NUMQT(TPF)                    I
           ----------------------------------------
                    I
                    I
              +------------+
             + DO          +
++++++++++  1000            +
+          + K=1,ONO        +
+           +------------+
+                   I
+                   I
+          ----------------------------------------
+          I ITEST=SUBGRD(RTP,NUMC(TPF,K),ANS(K))  I
+          I COUNT=COUNT+ITEST                     I
+          ----------------------------------------
+                   I
+
000 ++++++++CONTINUE
                    I
           ----------------------------------------
           I GPAO =COUNT/ONO                      I
           ----------------------------------------
                    I
                    I
```

(CONTINUED ON PAGE 69)

```
                    I
                    I
                    I
                 . * . * .
              . *   IF   * .
            *(RP.EQ.LS.OR.RP.EQ.4)
          I * .                 . * I
          I     * .         . *     I
          I         * . *           I
        - I         * I           * I
      -------     -------       -------
      I GO TO 9   I     I       I     I
      -------     -------       -------

                    I
                +-----------+
               + DO         +
     +++++++++  3030         +
     +         + K=1,NRU     +
     +          +-----------+
     +                I
     +                I
     +        ---------------------------------------
     +        I HDRCD(K) =HDRC(TPF,K)                I
     +        ---------------------------------------
     +                I
     +
 020 ++++++++CONTINUE
                      I
              ---------------------------------------
              I GRAD =SUMGRD(QNO,NUMRSP(TFL),HDRCD,AMS)
              ---------------------------------------
                      I

 999        ***RETURN
                      I
              ---------------------------------------
 999          I EG   =1                             I
              ---------------------------------------
                      I

            ***RETURN

 020          CONTINUE
                      I
              ---------------------------------------
              I EG   =-1                            I
              I LN   =RLN                           I
              ---------------------------------------
                      I

              BACKSPACE  IRESPT

            ***RETURN

              ENTRY HEDREC(RP,LN,ST,TP,CTQT,EH)
                      I
        GO TO(900,700,700,700)
```

```
                    I
        ***WRITE(IOTPT,515)
                    I
                 +------------+
                + DO          +
++++++++++  2010              +
+               + K2=1,12     +
+                +------------+
+                   I
+                   I
+          ----------------------------------------
+          I NUMOT(K2) =1                          I
+          ----------------------------------------
+                   I
+                   I
+                +------------+
+               + DO          +
++++++++++  2010              +
+               + K3=1,48     +
+                +------------+
+                   I
+                   I
+          ----------------------------------------
+          I HDRC(K2,K3) =0                        I
+          ----------------------------------------
+                   I
+
2010 ++++++++CONTINUE
                    I
          ----------------------------------------
          I CTOT =0                               I
          ----------------------------------------
                    I
                    I
                 +------------+
                + DO          +
+++++++++  1500               +
+               + KT=1,5      +
+                +------------+
+                   I
+                   I
+          ----------------------------------------
+          I SG   =1                               I
+          ----------------------------------------
+                   I
+                   I
```

(CONTINUED ON PAGE 71)

```
+
+                  I
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *(TP(KT).LE.0.OR.TP(KT).GT.5)
+     I * .                . * I
+     I      * .        . *     I
+     I          * . *          I
+   - I          0 I          + I
+ -------      -------      -------
+ I GOTO(150)  I     I      I     I
+ -------      -------      -------
+
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *  (TP(KT).NE.4)     *
+     I * .                . * I
+     I      * .        . *     I
+     I          * . *          I
+   - I          0 I          + I
+ -------      -------      -------
+ I GOTO(150)  I     I      I     I
+ -------      -------      -------
+
+                  I
+            +-------------+
  520 +         + DO          +
+++++++++++  150              +
+         + SM=L,ST         +
+            +-------------+
+                  I
+                  I
+        ----------------------------------------
+        I SG   =SM                              I
+        ----------------------------------------
+                  I
+
  530 +        CALL GETIT(HR,LN,SG,TP(KT),FILES,EH)
+                  I
+                  I
+              . *   * .
+          . *    IF     * .
+       *(EH.NE.0)WRITE(IOTPT,510)EH,LN,TP(KT)
+     I * .                . * I
+     I      * .        . *     I
+     I          * . *          I
+   - I          0 I          + I
+ -------      -------      -------
+ I     I      I SG  I      I     I
+ -------      -------      -------
+
+                  I
+        ----------------------------------------
+        I TPS  =TP(KT)+2*(SG-1)                 I
+        ----------------------------------------
+                  I
```

```
+
+                I
+                I
+          +------------+
+         + DO           +
++++++++++  1550          +
+         + KI=1,48      +
+          +------------+
+                I
+                I
+        ----------------------------------------
+        I HORC(TPE,KI) =HR(17+KI)               I
+        ----------------------------------------
+                I
+
550 ++++++++CONTINUE
+                I
+        ----------------------------------------
+        I CTQT =CTQT+1                          I
+        I NUMQT(TPE) =CNP                       I
+        I NUMRSP(TPE) =HR(11)                   I
+        ----------------------------------------
+                I
+                I
+                I
+            . *   * .
+         . *    IF     * .
+       *  (TP(KI).NE.4)    *
+     1 * .                . * 1
+    .1     * .        . *     1
+     I         * . *          I
+  - I          0 I          + I
+ -------      -------      -------
+ I GOTO1500  I      I      I      I
+ -------      -------      -------
+
+
1540 ++++++++CONTINUE
+
500 ++++++++CONTINUE

      ***RETURN

510       FORMAT(' *** WARNING *** ERROR IN OBTAINING HEADER RECORD,  [illegible]
          ',I2,' LESSON.',I2,' TYPE.',I2,' SEGMENT.',I2)

515       FORMAT(1H1)

          END

          FUNCTION SUMGRD(Q,N,H,A)

          INTEGER*2 Q,H(48),A(48),N,K

          INTEGER*2 IPASS,SUMGRD,ICORR,NP,D(11),SCORR,SNP,INCORR

10        FORMAT(40I3)
                  I
          ----------------------------------------
          I SCORR=0                               I
          ----------------------------------------
```

```
                    I
          SNP=0
                    I
             +------------+
            + DO          +
++++++++++  1000           +
+          + K=1,Q        +
+           +------------+
+                 I
+                 I
+        ----------------------------------------
+        I ICORR=IPASS(H(K),A(K),NP,Q)           I
+        I SCORR=SCORR+ICORR                     I
+        I SNP  =SNP+NP                          I
+        ----------------------------------------
+                 I
+
1000 ++++++++CONTINUE
                 I
         ----------------------------------------
         I INCORR =SNP-SCORR                     I
         I SUMCRD =(SCORR*100-(Q*INCORR*100      I
         ----------------------------------------
                 I

      ***RETURN

         END

         SUBROUTINE REP15

         IMPLICIT INTEGER*2 (K)

         INTEGER*2 NINFIL,NINCRS

         INTEGER*2 OUTPUT(185,10),PTLT(185,2),HWLI(185,2),OUTCTR(185)

         INTEGER*2 STDBCK(65),STDNME(13),CRNM(6),TP(5)

         INTEGER*2 OUTCHK(10),CTPI,NHW,NPT,CAPIN

         INTEGER*2 RP,LN,ST,SC,GRAD,RLN,CSN,RSG,RTP,CG,EH,INO,CTQT,LLN

         INTEGER*2 SECT(2),GROP(2),STDNO,CUMAV

         INTEGER*2 SUBOUT(2)/'  ','**'/

         INTEGER*2 DID(12)/1,9,8,2,7,3,10,4,10,5,10,6/

         INTEGER INPTC/1/,IOTPT/3/,IRESPT/4/,IAINSY/12/,IORPT
         EQUIVALENCE (STDNME(1),STDBCK(5)),(STDNO,STDBCK(2))

         EQUIVALENCE (KDROP,STDBCK(24)),(CAPIN,STDBCK(25))

         EQUIVALENCE (SECT(1),STDBCK(42)),(GROP(1),STDBCK(44))
                 I
         ----------------------------------------
         I IOT =10                               I
```

```
                    I
      ***READ(IAIDSY'1) NINFIL,NINCRS

      ***READ(INPTC,10) RP,LN,ST,SC,(TP(K),K=1,5),(CONT(K),K=1,5),[illegible]

      ***READ(INPTC,13) LLN
         READ(INPTC,14)  ((PTLT(K1,K2),K2=1,2),(HWLT(K1,K2),K2=1,2),
         K1=1,NINFIL)

2070     CONTINUE
                    I
         ----------------------------------------
         I JSTO =1                                I
         I IPGF =1                                I
         ----------------------------------------
                    I
                    I
            +------------+
           + DO          +
++++++++++  2020          +
+          + KDUM7=1,NINFIL
            +------------+
+                   I
+                   I
+        ----------------------------------------
+        I OUTCTN(KDUM7) =0                       I
+        ----------------------------------------
+                   I
+                   I
+           +------------+
+          + DO          +
++++++++++  2020          +
+          + KDUM8=1,10   +
+           +------------+
+                   I
+
+        OUTPUT(KDUM7,KDUM8)=0
+
2020 ++++++++CONTINUE
         CALL HFDREI(LN,ST,TP,CTQT,EH)

         CALL SUBMIT(TP,ST)
                    I
         ----------------------------------------
         I KREAD=NINFIL*CTQT                      I
         ----------------------------------------
                    I
                    I
            +------------+
           + DO          +
++++++++++  2000          +
+          + KDUM4=1,KREAD+
            +------------+
+                   I
+                   I
```

(CONTINUED ON PAGE 75)

```
*** PROGRAM LOGIC MANUAL  ***** LEVEL V 2SL.  III  *****
+
+                I
+
+       CALL GRAD1(GRAD,RLM,CSN,RSG,RTP,F..)
+                I
+                I
+            . *   * .
+         . *    IF     * .
+      *    (FG.NE.0)       *
+    I * .                 . * I
+    I      * .        . *     I
+    I          * . *          I
+  - I          0 I          + I
+ -------      -------      -------
+ I OUTFIOL)  I      I      I      I
+ -------      -------      -------
+
+
+       CALL CHECK(CSN,RTP,RSG)
+                I
+       ----------------------------------------
+       I IND  =DID(RTP+2*(RSG-1))              I
+       ----------------------------------------
+                I
+
+       OUTPUT(CSN,IND)=GRAD
+                I
+       ----------------------------------------
+       I OUTCTN(CSN) =OUTCTN(CSN)+1            I
+       ----------------------------------------
+                I
+
.000 ++++++++CONTINUE

.010          CONTINUE
                 I
              ----------------------------------------
              I JDUM2=(NINFIL/45)+1                  I
              ----------------------------------------
                 I
                 I
              +------------+
             + 00           +
++++++++++  1100            +
+           + JDUM1=1,JDUM2+
             +------------+
                 I
+
+       CALL HEADPG(IRPT,IPGE)
+
+    ***WRITE(IOTPT,510)
+
+    ***WRITE(IOTPT,515)(CRNM(K2),K2=1,6),LN
+
+    ***WRITE(IOTPT,501)
+
+    ***WRITE(IOTPT,530)
+                I
```

(CONTINUED ON PAGE 76)

```
+
+                  I
+                  I
+            +------------+
+          + DO           +
++++++++++  1000          +
+          + JDUMB=1,45   +
+            +------------+
+                  I
+
+     ***READ(2'JSTP)STDBCK
+                  I
+                  I
+              . *   * .
+          . *     IF     * .
+       *  (KDRUP.EQ.1)      *
+     I * .                . * I
+     I      * .       . *     I
+     I          * . *         I
+  - I           0 I          + I
+ -------      -------      -------
+ I GOTO1030   I     I      I     I
+ -------      -------      -------
+
+                  I
+                  I
+              . *   * .
+          . *     IF     * .
+       *(OUTCTN(STDNO).LE.0)
+     I * .                . * I
+     I      * .       . *     I
+     I          * . *         I
+  - I           0 I          + I
+ -------      -------      -------
+ I GOTO1040   I     I      I     I
+ -------      -------      -------
+
+
+        CALL GETCHK(STDNO,OUTCHK)
+                  I
+        ----------------------------------------
+        I CTPI =0                               I
+        I SUMAVE =0                             I
+        ----------------------------------------
+                  I
+                  I
+            +------------+
+          + DO           +
++++++++++  1060          +
+          + KAVE=2,8     +
+            +------------+
+                  I
+                  I
```

(CONTINUED ON PAGE 77)

```
+
+                    I
+                    I
+                    I
+               . *   * .
+           . *    IF     * .
+        *(OUTCHK(KAVE).EQ.1)*
+     1 * .                  . * 1
+     1      * .         . *     1
+     1           * . *          1
+   - 1           0 1          + 1
+ -------       -------      -------
+ I CTPI1CTPI+I      I      I      I
+ -------       -------      -------
+
+                    I
+         ----------------------------------------
+         I SUMAVE =SUMAVE+OUTPUT(STONO,KAVE)      I
+         ----------------------------------------
+                    I
+
060 ++++++++CONTINUE
+                    I
+                    I
+               . *   * .
+           . *    IF     * .
+        *   (CTPI.EQ.0)      *
+     1 * .                  . * 1
+     1      * .         . *     1
+     1           * . *          1
+   - 1           0 1          + 1
+ -------       -------      -------
+ I CTPI11      I      1      I      I
+ -------       -------      -------
+
+
+         OUTPUT(STONO,10)=SUMAVE/CTPI
+                    I
+         ----------------------------------------
+         I PTLT(STONO,1) =PTLT(STONO,1)+OUTPUT(STONO,9)
+         I HWLT(STONO,1) =HWLT(STONO,1)+OUTPUT(STONO,8)
+         I CUMAV=0                                 I
+         I NPT  =1                                 I
+         I NHW  =1                                 I
+         ----------------------------------------
+                    I
+                    I
```

(CONTINUED ON PAGE 78)

```
+
+                    I
+                    I
+                    I
+                 . *   * .
+            . *    IF     * .
+         *(OUTCHK(3).EQ.2)    *
+      I * .                 . * I
+      I      * .         . *     I
+      I           * . *          I
+   - I           0 I           + I
+  -------       -------       -------
+  I NHW=I       I     I       I     I
+  -------       -------       -------
+
+                    I
+                    I
+                 . *   * .
+            . *    IF     * .
+         *(OUTCHK(9).EQ.2)    *
+      I * .                 . * I
+      I      * .         . *     I
+      I           * . *          I
+   - I           0 I           + I
+  -------       -------       -------
+  I NPT=I       I     I       I     I
+  -------       -------       -------
+
+                    I
+          ----------------------------------------
+          I HWLT(STDNO,2) =HWLT(STDNO,2)+NHW       I
+          I PTLT(STDNO,2) =PTLT(STDNO,2)+NPT       I
+          I        IF(HWLT(STDNO,2).EQ.0).AND.PTLT(STDNO,2).GT.0)
+          I        CUMAV =       PTLT(STDNO,1)/PTLT(STDNO,2)
+          I        IF(PTLT(STDNO,2).EQ.0.AND.HWLT(STDNO,2).GT.0)
+          I        CUMAV =       HWLT(STDNO,1)/HWLT(STDNO,2)
+          ----------------------------------------
+                    I
+                    I
+                    I
+                 . *   * .
+            . *    IF     * .
+         *(HWLT(STDNO,2).GT.0.AND.PTLT(STDNO,2).GT.0)
+      I * .                 . * I
+      I      * .         . *     I
+      I           * . *          I
+   - I           0 I           + I
+  -------       -------       -------
+  I     I       I     I       I     I
+  -------       -------       -------
+
+          CUMAV =  3*HWLT(STDNO,1)/(HWLT(STDNO,2)*10)+
+                   7*PTLT(STDNO,1)/(PTLT(STDNO,2)*10)
+          WRITE(IOTPT,520) (STDNME(K4),K4=1,13),SECT(1),SECT(2),GROP(2),
+          STDNO,
+          (OUTPUT(STDNO,K4),SUBOUT(OUTCHK(K4)),K4=1,10),CUMAV,CAPIN
+          IF(IGRPT.NE.0)
+          WRITE(IGRPT,521)LN,(STDNME(K),K=1,13),SECT(1),SECT(2),GROP(2),
+          STDNO,(OUTPUT(STDNO,K4),SUBOUT(OUTCHK(K4)),K4=1,10),CUMAV,
+          CAPIN,(SUBOUT(K4),K4=1,10)
```

(CONTINUED ON PAGE 79)

```
***** PROGRAM LOGIC MANUAL  *** A.I.M. . VERSION III  ****
+
+                    I
+                    I
+                 -------
+                 I 1070I
+                 -------
+
+
+
+
+     ***WRITE(IOTPT,540)(STDNME(K5),K5=1,13),STDNO
+                    I
+                 -------
+                 I 1070I
+                 -------
+
+
+
+
+     ***WRITE(IOTPT,550)(STDNME(K5),K5=1,13),STDNO
+                    I
+                    I
+                 . *   * .
+            . *    IF     * .
+        *(JSTD.GE.NINFIL)    *
+      I * .                . * I
+      I      * .        . *     I
+      I          * . *          I
+   - I           0 I          + I
+ -------       -------      -------
+ I GOTO(100)   I     I      I     I
+ -------       -------      -------
+
+                    I
+          ------------------------------------------
+          I JSTD =JSTD+1                           I
+          ------------------------------------------
+                    I
+
+++++++++CONTINUE
+
++++++++CONTINUE
                    I
                    I
                 . *   * .
            . *    IF     * .
        *       (EG)          *
      I * .                . * I
      I      * .        . *     I
      I          * . *          I
   - I           0 I          + I
 -------       -------      -------
 I 2040I       I 2040I      I 2060I
 -------       -------      -------

                    I
```

(CONTINUED ON PAGE 80)

```
                    I
 040        CONTINUE
                    I
            ----------------------------------------
            I LN    =RLN                           I
            ----------------------------------------
                    I
                    I
                 -------
                 I 2070I
                 -------


 060        CONTINUE
                    I
            ----------------------------------------
            I IPUNH=?                              I
            ----------------------------------------
                    I
        ***READ(INPTC,13)

        ***WRITE(IPUNH,15) (CRNM(K6),K6=1,6),LN

        ***WRITE(IPUNH,14)  ((PTLT(K1,K2),K2=1,2),(PWLT(K1,K2),K2=1,2),
           K1=1,NINFIL)
                    I
                    I
                 . *   * .
              . *    IF     * .
            *  (IGRPT.NE.0)      *
        1 * .                  . * 1
        1     * .          . *     1
        1         * . *           1
      - 1         0 I           + 1
      -------     -------       -------
      I ERDFILEIGRIT    I       I     I
      -------     -------       -------

 15         FORMAT(1X,'THIS IS HEADER RECORD FOR CUM. AVE., COURSE. ',6A2
            ,'NO.',I2)

 10         FORMAT(I2,7X,3I2,5I1,9X,6A2,8X,I2)

 13         FORMAT(62X,I2)

 14         FORMAT(10(I5,I3))

 501        FORMAT(1H0)

 510        FORMAT(/,50X,'*** VOLUME SUMMARY ***')

 515        FORMAT(//,40X,'COURSE, ',6A2,5X,'VOLUME NO.  ',I3,/,20X,'NOTE,
            THE ** SIGNIFIES THAT NO MATERIALS HAVE BEEN SUBMITTED FOR PROCESS
            ING')
```

```
      FORMAT(1X,12A2,A1,3A2     ,I4,10(2X,I3,'.',I2),2X,I3,'.',4X,I1,'.')

      FORMAT(I2,12A2,A1,3A2,I3,12(I1,'.',A2))
      FORMAT  (10X,'STUDENT',15X,'CSN  PAR.',3(3X,'STUDY'),
     *  ASSIGN    HOME    POST    PERF.    CUR.    CAPL.',/,
     37X,'TEST    GOE(1)  GOE(2)  GOE(3)  GOE(4)  GOE(5)',
     11X,'WORK     TEST   INDEX    AVE.   INDEX')

      FORMAT(1X,12A2,A1,6X,I3,6X,'STUDENT DROPPED')

      FORMAT(1X,12A2,A1,6X,I3,6X,'THIS STUDENT DOES NOT HAVE ANY CRITERIA
     1S TO BE PROCESSED')

***RETURN

      END

      SUBROUTINE GRADE(GRAD,SUP,CSN,RSG,RTP,EG)

      IMPLICIT INTEGER*2 (K)

      INTEGER FILIS(5)/12,6,5,4,0/,IR,SPT/4/,I TP/3/

      INTEGER*2 HORS(16,48),HR(65),RESPR(65),ANS(48),NUMQT(16),IP(5)

      INTEGER*2 GRAD,CSN,RSG,RTP,EG,LN,ST,CTQT,EM,RLN

      INTEGER*2 COUNT,TPC,QNO,RIGHT,IICST,SG,SN

      INTEGER*2 SUBGRD

      EQUIVALENCE (RESPR(18),ANS(1)),(QNO,HR(13))
```

```
                I
        ----------------------------------------
        I EG    =0                             I
        I GRAD  =0                             I
        I COUNT=0                              I
        ----------------------------------------
                I

***READ(IRESPT,END=9999)RESPR
                I
        ----------------------------------------
        I RLN   =RESPR(1)                      I
        ----------------------------------------
                I
                I
```

(CONTINUED ON PAGE 82)

```
                    I
                    I
                    I
                 . * .
              . *   IF   * .
           *   (LN-PLN)      *
        I * .                . * I
        I     * .        . *     I
        I         * . *          I
      - I         0 I          + I
     -------     -------      -------
     I 30201     I 30101      I 30001
     -------     -------      -------

2010      CONTINUE
                    I
          ----------------------------------------
          I CSN   =RESPR(2)                       I
          I RSG   =RESPR(3)                       I
          I RTP   =RESPR(4)                       I
          I TPC   =RTP+2*(RSG-1)                  I
          I GNO   =NUMOT(TPE)                     I
          ----------------------------------------
                    I
                    I
                 +-----------+
                + DO          +
++++++++++  1000               +
+          + K=1,GNO          +
+           +-----------+
+                   I
+                   I
+         ----------------------------------------
+         I ITEST=SUBGRD(RTP,HDRC(TPE,K),ANS(K))  I
+         I COUNT=COUNT+ITEST                     I
+         ----------------------------------------
+                   I
+
1000 +++++++++CONTINUE
                    I
          ----------------------------------------
          I GRAD =COUNT/GNO                       I
          ----------------------------------------
                    I

999       ***RETURN
                    I
          ----------------------------------------
999       I CG   =1                               I
          ----------------------------------------
                    I

          ***RETURN

1020      CONTINUE
                    I
          ----------------------------------------
          I IG   =1                               I
```

```
***** PROGRAM LISTING ******************************************************

                    I
          LABEL 1
          BACKSPACE  IDESPT
      ***RETURN
          ENTRY  HDREL(LP,ST,TP,CTOT,LH)
      ***WRITE(IOTPT,515)
                    I
              +------------+
             + DO            +
+++++++++  2010             +
+            + K2=1,16       +
+             +------------+
+                   I
+                   I
+        ----------------------------------------
+        I NUMQT(K2) =1                          I
+        ----------------------------------------
+                   I
+                   I
+             +------------+
+            + DO            +
+++++++++  2010             +
+            + K3=1,42       +
+             +------------+
+                   I
+                   I
+        ----------------------------------------
+        I HDRC(K2,K3) =0                        I
+        ----------------------------------------
+                   I
+
2010 ++++++++CONTINUE
                    I
         ----------------------------------------
         I CTOT =0                               I
         ----------------------------------------
                    I
                    I
              +------------+
             + DO            +
+++++++++  1500             +
+            + KT=1,5        +
+             +------------+
+                   I
+                   I
+        ----------------------------------------
+        I SG   =1                               I
+        ----------------------------------------
+                   I
+                   I
```

(CONTINUED ON PAGE 84)

```
+
+                    I
+                    I
+                    I
+              . *   * .
+          . *     IF     * .
+       *(TP(KT).LE.0.OR.TP(KT).GT.5)
+     I * .                  . * I
+     I      * .        . *      I
+     I           * . *          I
+   - I           0 I          + I
+ -------       -------      -------
+ I GOTO1500    I     I      I     I
+ -------       -------      -------
+
+                    I
+                    I
+              . *   * .
+          . *     IF     * .
+       *  (TP(KT).NE.4)     *
+     I * .                  . * I
+     I      * .        . *      I
+     I           * . *          I
+   - I           0 I          + I
+ -------       -------      -------
+ I GOTO1530    I     I      I     I
+ -------       -------      -------
+
+                    I
+            +------------+
520 +          + DO          +
++++++++++  1540            +
+          + SM=1,ST       +
+            +------------+
+                    I
+                    I
+        ----------------------------------------
+        I SG    =SM                            I
+        ----------------------------------------
+                    I
+
530 +        CALL GETIT(HR,LN,SG,TP(KT),FILES,EH)
+                    I
+                    I
+              . *   * .
+          . *     IF     * .
+       *(EH.NE.0)WRITE(IOTPT,510)EH,LN,TP(KT)
+     I * .                  . * I
+     I      * .        . *      I
+     I           * . *          I
+   - I           0 I          + I
+ -------       -------      -------
+ I     I       I SG  I      I     I
+ -------       -------      -------
+
+                    I
+        ----------------------------------------
+        I TPE   =TP(KT)+2*(SG-1)                I
+        ----------------------------------------
+                    I
```

(CONTINUED ON PAGE 85)

```
      +
      +                 I
      +                 I
      +          +------------+
      +          + DO          +
      ++++++++++ + 1550        +
      +          + KL=1,40     +
      +          +------------+
      +                 I
      +                 I
      +        ----------------------------------------
      +        I HOPC(TPE,KL) =A5(I7+KI)               I
      +        ----------------------------------------
      +                 I
      +
 1550 ++++++++CONTINUE
      +                 I
      +        ----------------------------------------
      +        I CTOT =CTOT+1                          I
      +        I NUMOT(TPE) =0&0                       I
      +        ----------------------------------------
      +                 I
      +                 I
      +                 I
      +             . *   * .
      +         . *    IF     * .
      +       *  (TP(KT).NE.4)    *
      +     1 * .                . * I
      +     I      * .        . *     I
      +     I          * . *          I
      +  - I          0 I          + I
      + -------      -------      -------
      + I OUTDISC I     I      I      I
      + -------      -------      -------
      +
      +
 1540 ++++++++CONTINUE
      +
  100 ++++++++CONTINUE

          ***RETURN

  110         FORMAT(' *** WARNING *** ERROR IN OBTAINING HEADER RECORD, ***',
              ',I2,' LESSON.',I2,' TYPE.',I2,' SEGMENT.',I2)

  515         FORMAT(1H1)

              END

            * SUBROUTINE RCP16

              IMPLICIT INTEGER*2 (K)

              INTEGER*2 SUBOUT(12),STDNME(13),CRNM(6),TP(5)

              INTEGER*2  OUTPUT(12),CSN
                         I
```

(CONTINUED ON PAGE 86)

```
                    I
          INTEGER*2 ID(2,2),LID(2,2),LLN
          INTEGER*2 PP,LN,ST,SC
          INTEGER IRPTC/1/,IGTPT/3/,IRSPT/4/,IABSY/12/,IGRPT
          DATA ID(2,1)/'  '/,LID(2,1)/'  '/
                    I
          ----------------------------------------
          I IRPT =1                              I
          ----------------------------------------
                    I
     ***READ(IRPTC,1) PP,LN,ST,SC,(TP(K),K=1,5),(CONN(K),K=1,3),IGRPT
          READ(IGRPT,521)
          LN ,(STOMF(K),K=1,13),(ID(1,K),K=1,2),ID(2,2) , CON,
          (GOTPUT(K),SUBOUT(K),K=1,12)
000       CONTINUE
                    I
          ----------------------------------------
          I LLN  =LN                             I
          ----------------------------------------
                    I
                    I
                +------------+
                + DO         +
++++++++++      6000          +
+               + J=1,2      +
+                +------------+
+                    I
+                    I
+                +------------+
+               + DO         +
++++++++++      6000          +
+               + K=1,2      +
+                +------------+
+                    I
+                    I
+         ----------------------------------------
+         I LID(J,K) =ID(J,K)                    I
+         ----------------------------------------
+                    I
+
000 ++++++++CONTINUE
          BACKSPACE IGRPT
                    I
          ----------------------------------------
          I IPGF =1                              I
          ----------------------------------------
                    I
000       CONTINUE
                    I
```

(CONTINUED ON PAGE 87)

```
                    I
          CALL HEADPG(IRPT,IPGF)
      ***WRITE(IOTPT,510)
      ***WRITE(IOTPT,515)(CPNM(K2),K2=1,6),I
      ***WRITE(IOTPT,501)
      ***WRITE(IOTPT,530)
                    I
            +------------+
          + DO          +
++++++++++  1000         +
+         + JOUR3=1,45  +
            +------------+
                    I
+       READ(IGRPT,521,END=999)
+       LN ,(STORME(K),K=1,13),(ID(1,K),K=1,2),ID(2,2) , CS ,
+       (OUTPUT(K),SUBOUT(K),K=1,12)
+                   I
+                   I
+             . *   * .
+         . *    IF     * .
+       *   (LLN.NE.LN)      *
+    I * .                . * I
+    I     * .        . *     I
+    I          * . *         I
+  - I          0 I          + I
+ -------      -------      -------
+ I GOTO1000  I      I      I      I
+ -------      -------      -------
+
+                   I
+            +------------+
+          + DO          +
++++++++++  4000         +
+         + K=1,2       +
            +------------+
+                   I
+                   I
+                   I
+             . *   * .
+         . *    IF     * .
+       *(ID(SC,K).NE.LID(SC,K))
+    I * .                . * I
+    I     * .        . *     I
+    I          * . *         I
+  - I          0 I          + I
+ -------      -------      -------
+ I GOTO1000  I      I      I      I
+ -------      -------      -------
+
+                   I
```

(CONTINUED ON PAGE 88)

```
*** PROGRAM LISTING MANUAL *** [illegible]
+
+                I
+
1000 ++++++++CONTINUE
+                I
+        ----------------------------------------
+        I LLN  =LN                              I
+        ----------------------------------------
+                I
+                I
+          +-----------+
+         + DO          +
++++++++++  2000         +
+         + J=1,2       +
+          +-----------+
+                I
+                I
+          +-----------+
+         + DO          +
++++++++++  2000         +
+         + K=1,2       +
+          +-----------+
+                I
+                I
+        ----------------------------------------
+        I ID(J,K) =ID(J,K)                      I
+        ----------------------------------------
+                I
+
2000 ++++++++CONTINUE
+        WRITE(IOTPT,520)
+            (STDNME(K),K=1,13),(ID(1,K),K=1,2),ID(2,2) , USN,
+        (OUTPUT(K),SUBOUT(K),K=1,12)
+
2000 ++++++++CONTINUE
                I
             -------
             I 50001
             -------


        FORMAT(I2,7X,3I2,5I1,9X,6A2,8X,I2)

 501    FORMAT(1H0)

 510    FORMAT(/,50X,'*** VOLUME SUMMARY ***')

 515    FORMAT(//,40X,'COURSE, ',6A2,5X,'VOLUME NO.  ',A2,/,20X,'NOTE,
        THE ** SIGNIFIES THAT NO MATERIALS HAVE BEEN SUBMITTED FOR PROCESS
        ING')

 520    FORMAT(1X,12A2,A1,3A2,A3,I2(2X,A4,A2))

 521    FORMAT(A2,12A2,A1,2A2,A2,A3,I2(A4,A2))
 530    FORMAT  (10X,'STUDENT',15X,'CSN  PRE.',5(3X,'STUDY'),
        '  ASSIGN    HOME    POST    PERF.    CUM.    CAPL.',/,
        37X,'TEST   GDE(1)  GDE(2)  GDE(3)  GDE(4)  GDE(5)',
        11X,'WORK    TEST   INDEX    AVE.   INDEX')
                I
```

(CONTINUED ON PAGE [illegible])

```
40        FORMAT(1X,12A2,A1,6X,I3,6X,'STUDENT DOES APPEAR')

450       FORMAT(1X,12A2,A1,6X,I3,6X,'THIS STUDENT DOES NOT HAVE ANY DATA IN
          LS TO BE PROCESSED')

      ***RETURN

          END
 PT 31

TRACEBACK FOLLOWS-   ROUTINE    ISN   ADD.  14   PSW.  15   ADD.   0   ADD.   1
                     IBCOM           92003070   00006F58   00000001   00000000
                     MAIMPC
 LAST POINT= 00001FL6
```